THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CANDIDATES' ITEM RESPONSE ANALYSIS REPORT ON THE ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION (ACSEE) 2023

GEOGRAPHY

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CANDIDATES' ITEM RESPONSE ANALYSIS (CIRA) REPORT ON THE ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION (ACSEE) 2023

113 GEOGRAPHY

Published by:
The National Examinations Council of Tanzania,
P.O. BOX 2624,
Dar es Salaam, Tanzania.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

FOREWORD

The report on the Candidates Item Response Analysis (CIRA) for the 2023 Advanced certificate of Secondary Education Examination (ACSEE) for Geography subject has been prepared by the National Examinations Council of Tanzania (NECTA). The aim of this report is to provide feedback to different educational stake holders including students, teachers, parents, policy makers and the public in general on the performance of the candidates in Geography subject. It also aims at showing the extent to which the instructional goals and objectives have been met.

Principally, the candidates' responses to the examination questions indicated what the education system was able/unable to offer students in the two years of Advanced Certificate of Secondary Education.

In this report, the analysis of each question is covered and some statistical data are presented in figures and graphs. Factors that may have contributed to the candidates' ability to answer the examination questions correctly and score high marks include the ability to understand the demands of the question, having basic knowledge of the subject matter, having skills in computing and drawing, good mastery of English language and essay writing skills. The candidates who scored low marks depicted contrary attributes.

NECTA believes that, this report shall serve as the basis for enabling all educational stake holders including educational administrators, school managers, teachers and students to identify the proper measures to be taken in order to improve candidates' performance in the future examinations administered by the Council.

Finally, the National Examinations Council of Tanzania is gratefully to all Examination Officers and other stakeholders who provided valuable assistance during the preparation of this report.

Dr. Said A. Mohamed
EXECUTIVE SECRETARY

1.0 INTRODUCTION

The 2023 Advanced Certificate of Secondary Education Examination (ACSEE) Geography subject covered the 2010 syllabus and adhered to the 2019 examination format (revised version). The examination consisted of two papers; 113/1 Geography paper 1 and 113/2 Geography paper 2. Paper one consisted of two sections; A and B with a total of seven (7) questions. The candidates were required to answer five (5) questions. Section A consisted of three (3) questions from the following topics; *Topographic Map Interpretation, Photograph Interpretation* and *Application of Statistics in Geography*. The candidates were required to attempt two questions from this section. Question number one was compulsory. Section B had four (4) questions which were set from the following topics: *Water Masses, Space Dynamics, Position Behaviours and Structure of the Earth and Study of Soils*. The candidates were required to attempt three (3) questions from this section.

Paper two consisted of seven (7) questions which were set from the topics of *Population and Development* and *Regional Focal Studies* which involved the sub-topics of: *Agricultural Development, Transport and Communication, Sustainable Use of Forestry, Sustainable Use of Fuel and Power; and Manufacturing Industries.* The candidates were required to attempt a total of five (5) questions, again, question number one (1) was compulsory.

This report provides analysis on the performance of the candidates in each question by showing what they were required to do as well as the strengths and weaknesses of their responses. Samples of the candidates' answers are shown to illustrate their responses. In the analysis, the performance in each topic is ranked as weak, average and good if the percentages of candidate's scores range from 0 to 34, 35 to 59 and 60 to 100 respectively. The candidates' performance is summarized in the appendix whereby green, yellow and red colours are used to represent good, average and weak performances respectively.

A total of 53,765 candidates sat for the ACSEE 2023 Geography subject, out of which 53,647 (99.99%) candidates passed while, 4

(0.01%) failed. Generally, the performance for the ACSEE 2023 increased compared to the ACSEE 2022 in which 99.87 per cent of the candidates passed and 0.13 per cent failed.

It is expected that this report will be useful to all educational stakeholders. It will also enable teachers and students to improve the teaching and learning processes in Geography subject.

2.0 ANALYSIS OF THE CANDIDATES' PERFORMANCE IN EACH QUESTION

The Advanced Certificate of Secondary Education Examination (ACSEE) Geography subject is designed to test candidates' ability to comprehend and apply knowledge and skills in various situations. It also tests the ability to demonstrate, analyse, reason and interpret various Geographical phenomena such as physical features, map work, climate change and drawing conclusion from the observations and interpretations of different statistical phenomena.

2.1 113/1 GEOGRAPHY PAPER ONE

SECTION A: **Topographic Map Interpretation, Application of Statistics in Geography, Simple Survey and Map Making and Photograph Interpretation Topics**

2.1.1 Question 1: Topographic Map Interpretation

The question consisted of eight parts; (a), (b), (c) (d), (e), (f), (g) and (h). The candidates were required to study carefully the map extract of Uvinza sheet 113/2 provided and then to: (a) *locate by Latitudes and Longitudes the place found at grid reference 135376,* (b) *from grid reference 090340 toward the Eastern part of the map, the river reflects a certain stage of development; then (i) with an evidence, comment on the stage of the river development, (ii) identify three features formed by the river in the stage identified in (b) (i);* (c) *with evidence, point out three modes of transport common to the people at Uvinza,* (d) *determine the length of the River Ruchugi to its main river junction in km,* (e) *suggest two environmental problems which might be facing the people*

at Uvinza, (f) *identify two main sources of surface water for the people residing in the area,* (g) *besides the contour method, identify the second method applied by the cartographer to show relief features* and (h) *suggest four challenges to the mobility of people in the Western side.* The total marks allocated for this question were 25.

This was a compulsory question and therefore, it was answered by all 53,765 (100%) candidates, whereby 6,922 (12.87%) candidates scored 15 to 25 marks, 27,678 (51.48%) scored 9 to 14.5 marks and 19,165 (35.65%) scored 0 to 8.5 marks. Generally, the performance was good since 34,600 (64.35%) candidates scored 9 marks and above. Figure 1 illustrates the candidates' performance for this question.

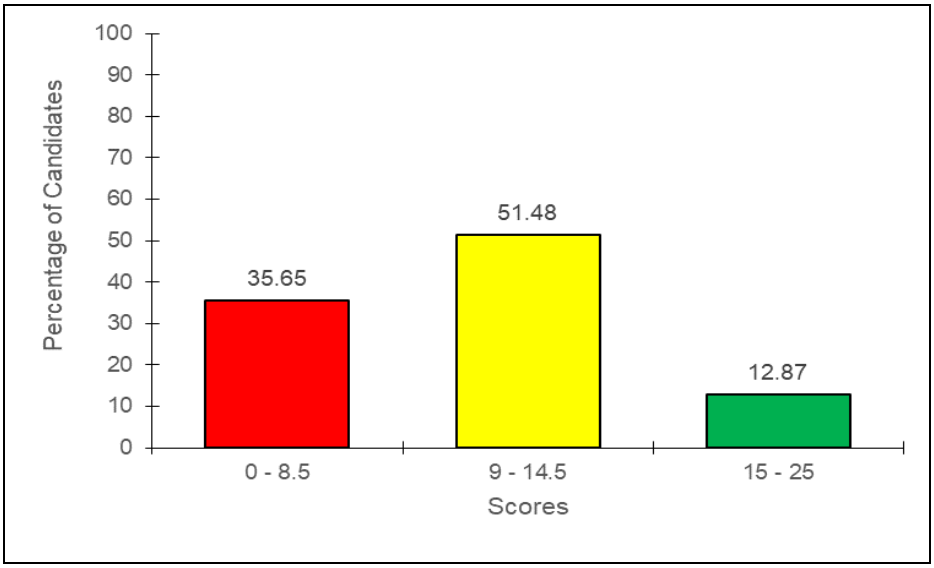


Figure 1: *Candidates' Performance in Question 1*

The analysis showed that 6,922 (12.87%) candidates who scored 15 to 25 marks had sufficient knowledge and skill on *Topographical Map Interpretation* whereby in part (a), they located the position of a place through the use of Latitude and Longitude. For example, one candidate wrote, $5^0 5$*'S* 30^0*25' E*.

In part (b) (i), they commented on the stage of river development from grid reference 090340 to the Eastern part of the mapped area with evidence. For example, one candidate wrote *Old stage*. Likewise, in (b)

(ii) they named three features formed by the river at the identified stage. The features were; *meanders, ox-bow lake and flood plain.*

Likewise, in part (c) with evidence, they extracted the three modes of transport shown on the topographical map. The three modes of transport common to people at Uvinza were:

(i) Road transport evidenced by all-weather roads at Uvinza sub town and series of main tracts in North East. The loose surface road found at grid reference 117280 to 064425.

(ii) Railway transport evidenced by railway line crossing the central part from Eeastern side to North West at 017355 to 145338.

(iii) Water transport evidenced by the presence of ferry at Uvinza built up area around grid reference 145334.

(iv) Air transport evidenced by the run way North West of Nyanza salt mines in the eastern part the mapped area.

(v) *Pipeline transport evidenced by water pipeline found at grid reference 1199330.*

In part (d), they determined the length of river Ruchugi in kilometers. Most candidates wrote *12.5 or 13 kms.*

In part (e), they suggested two environmental problems which might be facing the people at Uvinza as follows:

(i) Floods due to the existence of river and the flood plain to the Eastern side of the mapped area.

(ii) Pollution due to discharge from salt mining industry.

(iii) Deforestation or Loss of biodiversity due to cutting down of trees for drying salt.

(iv) Soil acidity seem to be high because of salt in the mapped area.

(v) Water logging due to the presence of rivers for example Ruchugi river.

In part (f), they identified two main sources of surface water on the mapped area which are:

(i) Rivers evidenced by the presence of main river moving from Western part to Eastern part at the center and river Ruchugi moving from north to south.

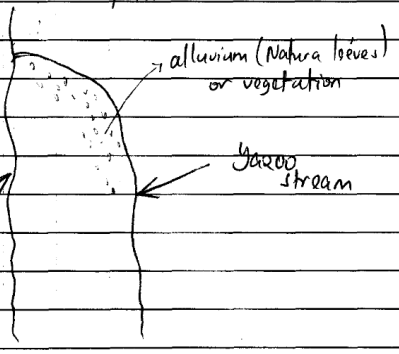
(ii) Dams in the Western side of the Uvinza center.

In addition to that, in part (g) beside the contour method used, they managed to identify another method used by the cartographer to show the relief features on the mapped area. This was *spot height* evidenced by the *Spot height 1188 in the South Eastern side and the sport height of 1068 at grid reference 055346*.

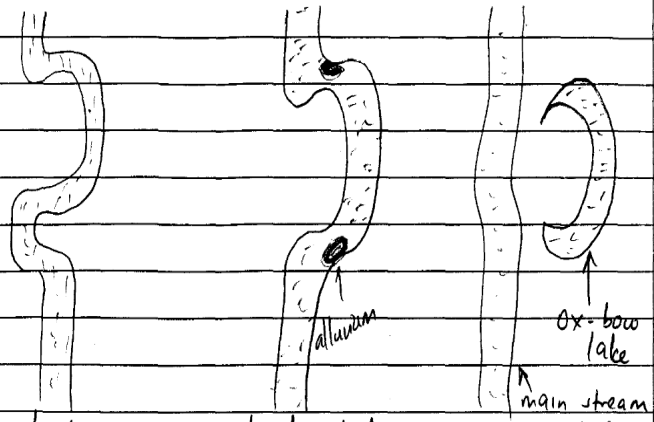
Moreover, in part (h), the candidates explained the four challenges facing the mobility of people in the North Western side of the mapped area. For example, one candidate wrote:

(i) *Restriction due to reserved forest(woodland) in the North West.*
(ii) *Terrain of the area where the area is dominated by hills.*
(iii) *Series of drained V shaped valleys evidenced by rivers.*
(iv) *The main rivers found in the Western part which is wide to limit easy crossing from either Southern to Northern or Northern to Southern part of the mapped area.*

However, the variations of their scores depended on the strengths and accuracy of their responses. Extract 1.1: is a sample of a correct response for question one.

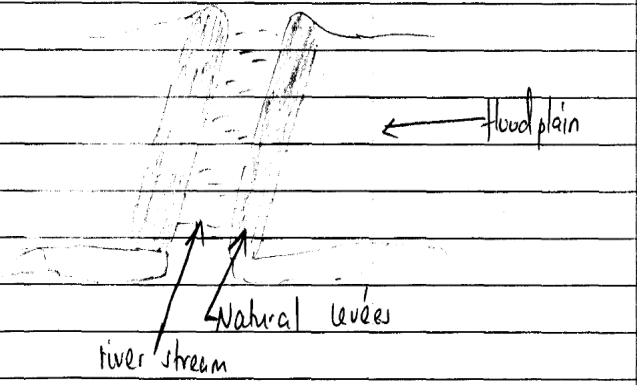
01a	The latitudunal locaton is 5° 5' (south) and the longtudunal locaton is 30° 25' (East)	
01b	i) The stage of river development is Old stage of development (lower stream) This can evidenced by presence of braided streams around the area of grid referenc (130336) indicating occurence of deposition activites	
	ii) Other features formed at old stage include Yazoo stream This is a deferred tributary which is forced to travel alongside the main stream for a long distance before rejoining back to the main stream It can be illustrated as follows 	
	Ox-bow lake Is the cutoff meander formed when deposition occurs on the path of a river. It is usually crescent shaped. The ea process of formation can be illustrated as follows	

016



Normal flow of meander — deposition starts to occur within meander — ox-bow lake formed while main stream flows naturally

Natural levées
Are ridge like features formed at the river banks due to deposition of alluvium alongside river banks



01c Common modes of transport ~~x~~ in Uvinza are

Water transport
This can be evidenced by presence of perennial river cutting across the map (river RUCHUGI)
also presence of ferry at grid reference 105346

01c	Land transport (railway transport)	
	This can be evidenced by presence of railway line running across the map from grid reference 145338 to 015388	
	Pipeline transport	
	This can be evidenced by presence of water pipelines running ~~around the~~ across the map as per indicated at grid reference 095345	
~~01d~~		
01e	People of Uvinza might face air pollution	
	This can be caused by presence of power plants which tend to produce industrial poisonous and harmful gases at grid reference 136360	
	People of Uvinza might be facing floods especially rain seasons due to alocation of town near the main river whereas might be within the flood plain	
01f	The two main sources of surface water for Uvinza people are	
	River Ruchugi which is perennial in nature	
	This can be evidenced by the river running across the map with wide representation	
	Dama reservior	
	This can also be a source of water supply to the people. It can be evidenced by presence of a dam (Nkwasa reservoir) at grid reference 084354 (084361)	

01g	The cartographer has used spotheight to show relief features ~~this~~ This can be evidenced by presence of spotheight (•1068) at grid reference 055346	
01h	Challenges for mobility of people in the north western side include Lack of availability of various means of transport or mode of transport As it can evidenced in the north weste part there is only railway transport Presence of unreliable pathway This can be evidenced by presence of footpath that can be unreliable during heavy rainfall Presence of multiple river streams which can cause problem of waterlogging during rain season causing hindrances to mobility of the people Presence of steep slopes which act as ~~b~~ a barrier ~~to form~~ in formation of land transport systems such as roads hence difficulty in mobility of the people. Steep slopes can be evidenced at the top most part of map around grid reference 026424	

Extract 1.1: A sample of a correct response for question 1

Moreover, 27,678 (51.48%) candidates who scored 9 to 14.5 marks revealed moderate knowledge and skills on the topic of *Topographical Map Interpretation.* Most of them answered correctly only few parts of the question and mixed-up correct and incorrect responses in some parts

of the question. Some candidates failed to locate position using Latitude and Longitude, whereas others skipped some parts of the question. Others provided fewer responses contrary to the demand of the question.

Furthermore, 19,165 (35.65%) candidates who scored from 0 to 8.5 marks revealed lack of knowledge and skills on the topic of *Topographical Map Interpretation*. In part (a), some candidates failed to locate the place found at grid reference 135376 using Latitude and Longitude. For example, one candidate wrote incorrect location as *135 Longitudes* and *376 Latitudes*. This shows that the candidate had insufficient skills of identifying positions by the use of grid references and locating positions using Latitude and Longitude.

In part (b), some candidates commented correctly on the stage of river development as *old stage.* However, they failed to identify the major features associated with this stage of river development. For example, one candidate wrote features like *U-shaped valley, misfit, elbow* and *bluff*. Others mixed correct and incorrect features formed by the river in the old stage. For example, one candidate wrote *meander* which was correct, *V-shaped valley* and *interlocking spurs* which were incorrect responses.

In part (c), some candidates pointed out the modes of transport correctly, but they mentioned without providing evidences from the map and others did not provide answers. For example, one candidate wrote *water transport*, *road transport* and *railway transport*. Other candidates mixed correct and incorrect responses. For example, one candidate wrote *animal transport* and *cable transport* which were incorrect answers and *road transport* which was correct.

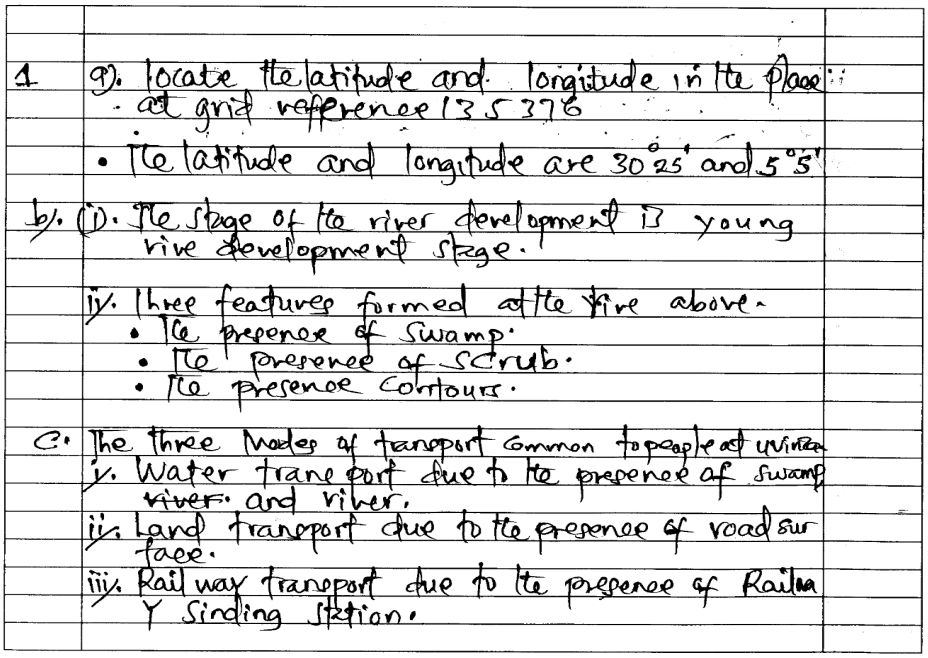
In part (d), some candidates performed poorly as they failed to determine the length of River Ruchugi to its main river junction while others failed to convert the map scale into the actual ground distance. For example, one candidate obtained *38 cm* as the measurement on the map which was wrong and also wrongly converted it into actual ground distance. This candidate showed lack of measurement skills.

In part (e), some candidates suggested the environmental problems which might be facing the people at Uvinza. Others mentioned without providing evidence, for example one candidates wrote *outbreak of diseases and hunger.*

In part (f), some candidates failed to identify the main sources of surface water in the area with evidences. Some identified correctly the sources of surface water without writing their location on the map while, other candidates provided incorrect evidences. For example, one candidate wrote *Lake Tanganyika* and *rainfalls* which were not correct another candidate wrote *underground water due to the presence of rapids and spring water.*

In part (g), most candidates identified the second method of showing relief features which was *spot height* but failed to provide evidence or location on the map others provided incorrect responses. Examples of incorrect responses provided were *Bench mark, Layer tinting* and *Trigonometric station.*

In part (h), most candidates failed completely to suggest the challenges to the mobility of people in Northern Western side. Examples of the incorrect challenges provided were; *high rainfalls, electricity problems, lack of health services, poor infrastructure, increase of temperature* and *lack of social services.* The correct ones were; *restriction due to reserved forest, hills, series of drained v-shaped valleys and the main river.* Extract 1.2 represents the candidate's incorrect responses for some parts of this question.


1 a). locate the latitude and longitude in the place at grid reference 135376
• The latitude and longitude are 30°25' and 5°5'
b). (i). The stage of the river development is young rive development stage.
ii). Three features formed at the rive above.
• The presence of swamp.
• The presence of scrub.
• The presence contours.
c. The three modes of transport common to people at uvinza
i. Water transport due to the presence of swamp river. and river.
ii. Land transport due to the presence of road surface.
iii. Rail way transport due to the presence of Railway Y Sinding Station.

Extract 1.2: A sample of incorrect response for question 1

In extract 1.2, the candidate failed to locate the position of the map using Latitude and Longitude. The candidate interchanged the *Latitudes with Longitudes* by identifying longitudes as Latitudes and Latitude as Longitude in part (a). In part (b) (i), the candidate mentioned *young stage of the river* which was incorrect. The correct stage was the *Old stage of the river development*. In part (b) (ii), the candidate mentioned incorrect features for the stage which are *presence of swamps*, *presence of scrub* and *the presence of contour.* Swamps are the areas with stagnant water mostly found in lowland areas. Scrubs are small vegetation which are found in areas with little rainfall, and contours are one of the methods which are used to represent relief features. In part (c), the candidate provided the correct answers on the modes of transportation. This indicated that the candidate had little knowledge on the tested subtopic, hence mixed various concepts found in the topic of *Topographic Map Interpretation* contrary to the demand of the question.

2.1.2 Question 2: Photograph Interpretation

This question was divided into two parts (a) and (b). In Part (a), the candidates were asked; *A farmer went to a photographer and asked her to take a photograph showing all plants in his 50-acre farm. What type of photograph do you think the photographer would take? Support your answer by giving four reasons.* In Part (b), they were asked; *Suppose you have been asked to interpret a photograph of a certain area, how would you use pattern, shape, tone and texture to make your task successful?* A total of 15 marks were allocated for this question.

The question was answered by 14,938 (27.8%) candidates. The general performance was average since 5,818 (38.95%) candidates who attempted this question scored 5.5 marks and above. The analysis shows that 2,062 (13.80%) candidates scored 9 to 15 marks, 3,756 (25.15%) scored 5.5 to 8.5 marks and 9,120 (61.05%) scored 0 to 5 marks. Figure 2 illustrates the performance for this question.

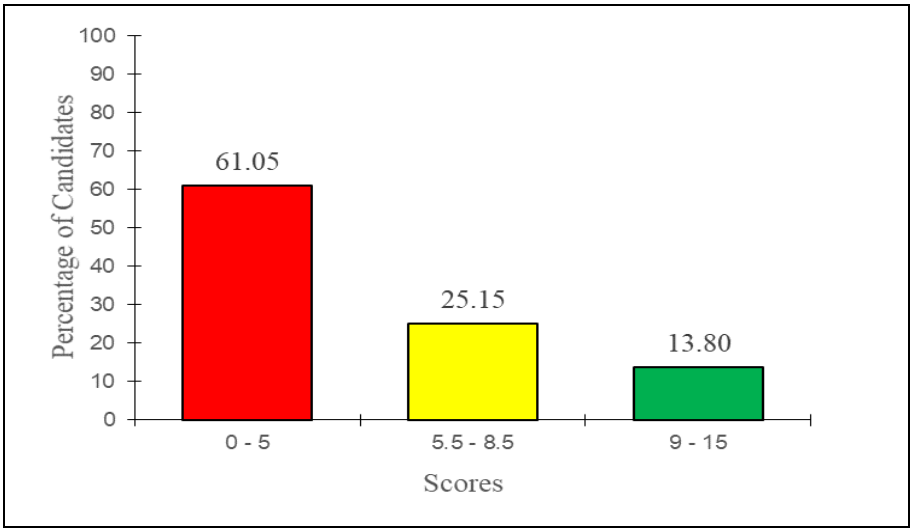


Figure 2: *Candidates' Performance in Question 2*

Further analysis showed that, 2,062 (13.80%) candidates who scored 9 to 15 marks had sufficient knowledge on the topic of *Photograph Interpretation,* especially on the major types of photographs with their characteristics. In part (a), they identified the type of photograph that would be suitable to show the area which covers 50 acres as *high oblique photograph* with its characteristics such as:

(i) *Taken by flying either aircraft or balloon.*
(ii) *Taken at the angle below 900 but non-less than 600.*
(iii) *Have wide panoramic view of a large area.*
(iv) *They cover large area than horizontal/ground photograph.*
(v) *Extract more information than ground photograph*.

Likewise, in part (b), the candidates explained the use of pattern, shape, tone and texture on interpreting a photograph. For example, one candidate wrote:

(i) *Pattern shows the arrangement of objects on the photograph. It helps to display the regular (man-made) and irregular(natural) patterns.*
(ii) *Shape refers to the structure or appearance of an object identified.*
(iii) *Tone is the amount of colour reflected back after capturing an object's image. It shows how bright or dark the object is. For*

example, forest appears dark, glacial appear white or bright and water bodies appear dark.

(iv) Texture shows how smooth or rough the object is.

Extract 2.1 illustrates such a correct response for this question.

2 a) The type of photograph to be taken is oblique Aerial photograph because:

i) It shows the top view of the object as it is taken at 90° above the ground

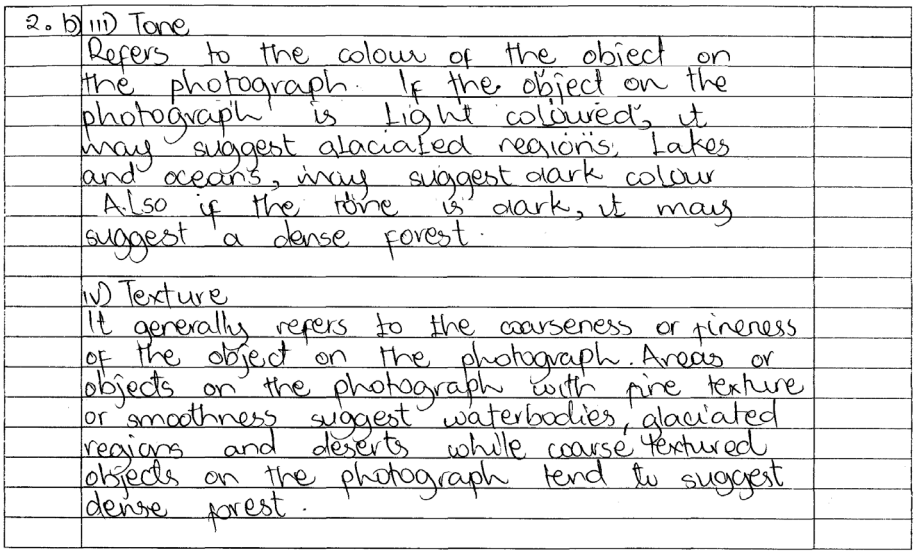
ii) It shows each feature on the photographed area.

iii) It is not affected by scale distortion as it does not have a varying scale.

iv) It is not affected by dead ground as it focuses on all objects.

b) i) Pattern
- Refers to the arrangement of objects on the photograph. If the objects on the photograph are planned, it may suggest a planned settlement or artificial forest while if the objects are not planned, it may suggest an urbanized town or natural forest.

ii) Shape.
-The shape of the object on the photograph determines what the object is. If the object is long and wavy, it may suggest a road or a river on the ~~map~~ photograph or a circular feature on the photograph may suggest a well.



Extract 2.1: A sample of the correct response for question 2

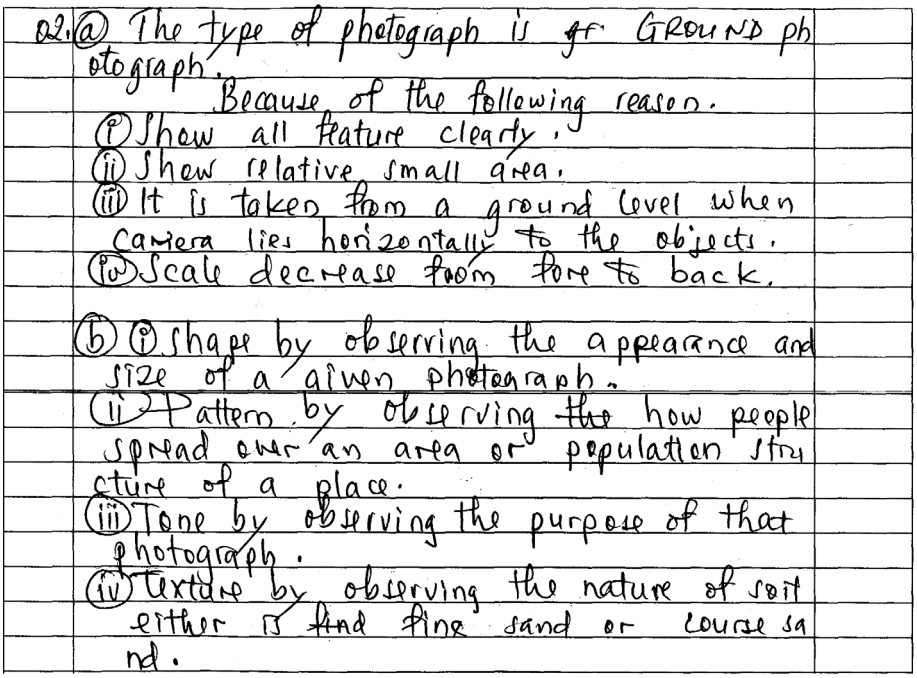
Furthermore, 3,756 (25.15%) candidates who scored 05 to 8.5 marks had unsatisfactory knowledge of the topic of *Photograph Interpretation,* especially on the major types of photographs with their characteristics.

In part (a), some candidates gave the correct type of photograph, but failed to give reasons. For example, one candidate mentioned *high oblique photograph* as a type of photograph, yet failed to support the response with reasons. The candidate explained the characteristics of horizontal/ground photograph which are *picture decrease in scale from the fore to the back ground, show clearly fore ground, middle ground and back ground,* instead of the characteristics of high oblique photograph. Others mixed the characteristics of high oblique photograph with the characteristics of ground photograph. For example, one candidate wrote, *it has no horizon, the front and side view are seen.* These are the characteristics of ground photograph; therefore, they were incorrect answers. Correct answers were *taken at the angle less than* 90^0 and *extract more information than ground photograph*.

In addition to that, in part (b), some candidates failed completely to describe the given terms. Others explained the terms inadequately and some managed to get few of them with regard to the demands of the question. For example, one candidate wrote, *tone is dealing with the*

crop, texture deals with the nature and environment, shape deals with large area and pattern deals with places which were incorrect responses. Some of the candidate skipped part (b) of this question.

Likewise, the 9,120 (61.05%) candidates who scored 0 to 4.5 marks, lacked knowledge on Photographs Interpretation as a result they could not name the type of photograph in part (a). Also, they failed to describe how pattern, tone, shape and texture are used in describing photograph in part (b). Extract 2.2 represents a sample of an incorrect response for this question.


02. (a) The type of photograph is ~~gr~~ GROUND photograph.
Because of the following reason.
(i) Show all feature clearly.
(ii) Show relative small area.
(iii) It is taken from a ground level when camera lies horizontally to the objects.
(iv) Scale decrease from fore to back.

(b) (i) Shape by observing the appearance and size of a given photograph.
(ii) Pattern by observing how people spread over an area or population structure of a place.
(iii) Tone by observing the purpose of that photograph.
(iv) Texture by observing the nature of soil either is fine sand or course sand.

Extract 2.2: A sample of incorrect response for question 2

In extract 2.2, the candidate identified the incorrect type of photograph as *ground photograph*. In the second part, the candidate identified the characteristics of ground photographs, instead of that of the high oblique photographs. In part (b), the candidate failed to explain the visual elements which are used to interpret aerial photograph. These are tone, pattern, texture and shape. This candidate failed to identify the demands of the question and was not knowledgeable about the topic of *Photograph Interpretation*.

2.1.3 Question 3: Application of Statistics in Geography

The candidates were given the following statement "*One of the high school registry provided statistical records for form five students registration in different combinations for four years as indicated in the following table".*

Combination	Years			
	2017	**2018**	**2019**	**2020**
HGE	258	285	243	267
CBG	292	310	285	295
EGM	100	143	180	307

Then, they were required to:

(a) Present the data using a percentage cumulative bar graph.

(b) Explain strengths and weaknesses of the percentage cumulative bar graph. Provide two points for each aspect.

(c) Comment on the trend of enrolment of students for EGM classes.

The question had a total of 15 marks.

This question was answered by 38,704 (72.00%) candidates. The general performance was good since 28,550 (73.76%) candidates scored 5.5 marks and above. Data analysis showed that 24,898 (64.33%) candidates scored 9 to 15 marks, 3,652 (9.43%) scored 5 to 8.5 marks and 10,154 (26.24%) scored 0 to 5 marks. Figure 3 illustrates the performance of the candidates for this question.

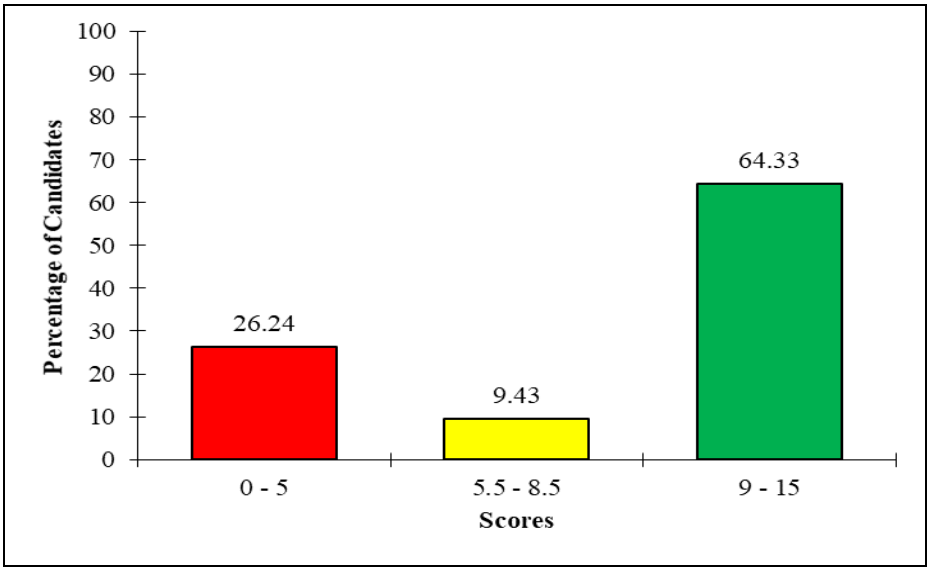


Figure 3: *Candidates' performance for question 3*

Further analysis showed that 24,898 (64.33%) candidates who scored 9 to 15 marks had adequate knowledge on the topic of *Application of Statistics in Geography* particularly on the use of statistical graphs. They presented data using a percentage cumulative bar graph, explained strengths and weaknesses of the percentage cumulative bar graph and provided two points for each aspect. Moreover, they commented on the trend of enrolment of students for EGM classes. For example, one candidate presented correct responses as follows;

In part (a) the candidate constructed percentage cumulative bar graph by starting with the following cumulative chart from the given data.

COMBINATION	YEARS			
	2017	**2018**	**2019**	**2020**
HGE	258	285	243	267
CBG	292	310	285	295
EGM	100	143	180	307
TOTAL	**650**	**738**	**708**	**869**

From a cumulative chart, the candidate calculated the percentage values of each combination in 4 years. Lastly, the candidate drew a graph to

represent the percentage cumulative bar graph showing students enrolment in the three combinations in that High School from 2017 to 2020.

Moreover, in part (b), the candidate explained clearly the strengths and weaknesses of using percentage cumulative bar graph as:
Strengths

(i) *The percentage cumulative bar graph represents more than one item in one graph.*

(ii) *The percentage cumulative bar graph enables comparison of different items in one year.*

(iii) *The graph looks attractive when different colors or shades are applied*.

Weaknesses

(i) *Construction of percentage cumulative bar graph is time consuming since it involves calculation.*

(ii) *If an error occurs in calculation, the whole work is distorted.*

(iii) *It is difficult to interpret due to the cumulative values shown.*

Moreover, in part (c), some candidates managed to comment on the trend of enrolment of students for EGM classes. For example, one candidate commented that, *the enrolment of students in EGM class is low in the year 2017, but kept on increasing gradually from 2018 to 2020.* Extract 3.1 is a sample of a correct response in this question.

Q3. a. To represent by using percentage cumulative bar graph.

Solution

Procedures

i) To find the total registered in each year

2017 =

258 + 292 + 100 = 650

2018

285 + 310 + 143 = 738

2019

243 + 285 + 180 = 708

2020

267 + 295 + 307 = 869

ii) To find percentage from each combination by taking.

From the year 2017

HGE $\frac{258}{650} \times 100\% = 39.7\% \simeq 40\%$

CBG = $\frac{292}{650} \times 100\% = 44.9\% \simeq 45$

EGM = $\frac{100}{650} \times 100 = 15.4\% = 15$

percentage total = 100%

Q89). In the year 2018

HGE = $\frac{285}{738} \times 100\% = 38.6\% = 39$

CBG = $\frac{310}{738} \times 100\% = 42\%$

EGM = $\frac{143}{738} \times 100\% = 19.4\%$

Total percentage = 100%.

Year 2019

HGE = $\frac{243}{708} \times 100\% = 34.3\%$

CBG = $\frac{285}{708} \times 100\% = 40.3\%$

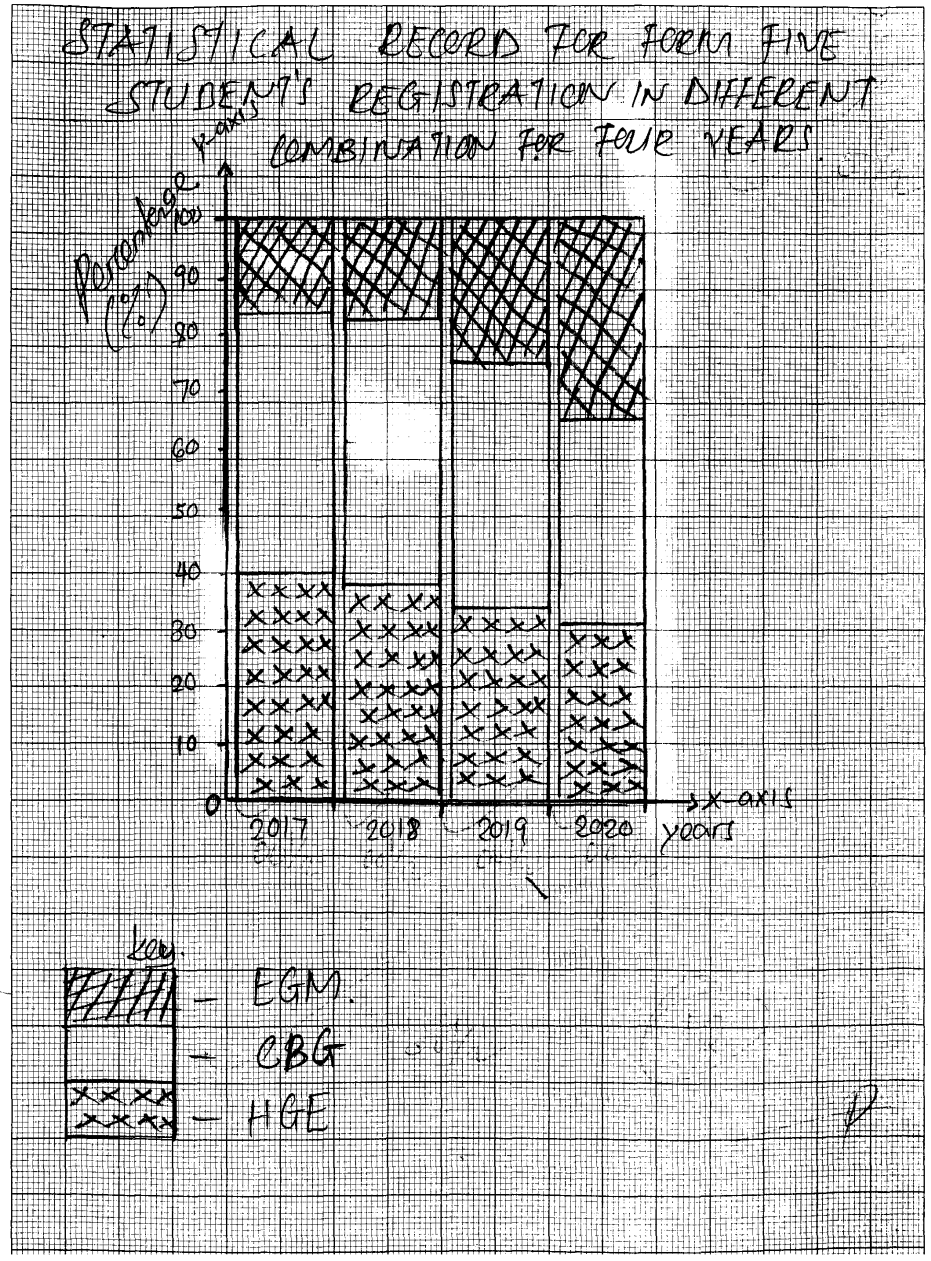
EGM = $\frac{180}{708} \times 100\% = 25.4\%$

Total percentage = 100%.

YEAR 2020 (%)

HGE = $\frac{267}{869} \times 100\% = 30.7\%$

CBC = $\frac{295}{869} \times 100\% = 33.9$



Extract 3.1: A sample of a correct response for question 3

Furthermore, 3,652 (9.43%) candidates who scored 5.5 to 8.5 marks had moderate knowledge of the topic of Application of Statistics in Geography. In part (a), the candidates skipped the part of calculating

data into percentage. Others failed to tabulate data cumulatively, calculation of percentage value of each combination in four years and to draw percentage cumulative bar graph. In part (b), the candidates were able to explain the strengths and weaknesses of the percentage cumulative bar graph. They also commented on the trend of enrolment, but failed to calculate the given data into percentage for each year. Such range of marks is a result of weaknesses of their responses.

The 10,154 (26.24%) candidates who scored 0 to 5 marks had insufficient knowledge of the topic of *Application of Statistics in Geography*. Most of those candidates failed to tabulate the data cumulatively and explain both two strengths and two weaknesses of the cumulative percentage bar graph. Others gave only one point correctly. Also, they failed to comment on the trend of enrolment of the students for EGM classes. For example, one candidate presented data using grouped bar graph, instead of cumulative bar graph. The candidate explained the strengths of the line graph instead of cumulative bar graph and did not comment on the trend of enrolment of students for the EGM classes. Extract 3.2 illustrates a sample of incorrect response for this question.

03@

Combination	Years			
H	2017	2018	2019	2020
HGE	258	285	243	267
CBG	292	310	285	295
EGM	100	143	180	307

Cumulative table

Combination	Years			
	2017	2018	2019	2020
HGE	258	543	786	1053
CBG	292	602	887	1,182
EGM	100	243	423	730

Cumulative In percentage for CBG

$\frac{258}{2640} \times 100\% = 10\%$ $\frac{292}{2963} \times 100\% = 10\%$

$\frac{543}{2640} \times 100\% = 21\%$ $\frac{602}{2963} \times 100\% = 20\%$

$\frac{786}{2640} \times 100\% = 30\%$ $\frac{887}{2963} \times 100\% = 30\%$

$\frac{1053}{2640} \times 100\% = 40\%$ $\frac{1182}{2963} \times 100\% = 40\%$

for EGM

$\frac{100}{1496} \times 100\% = 7\%$

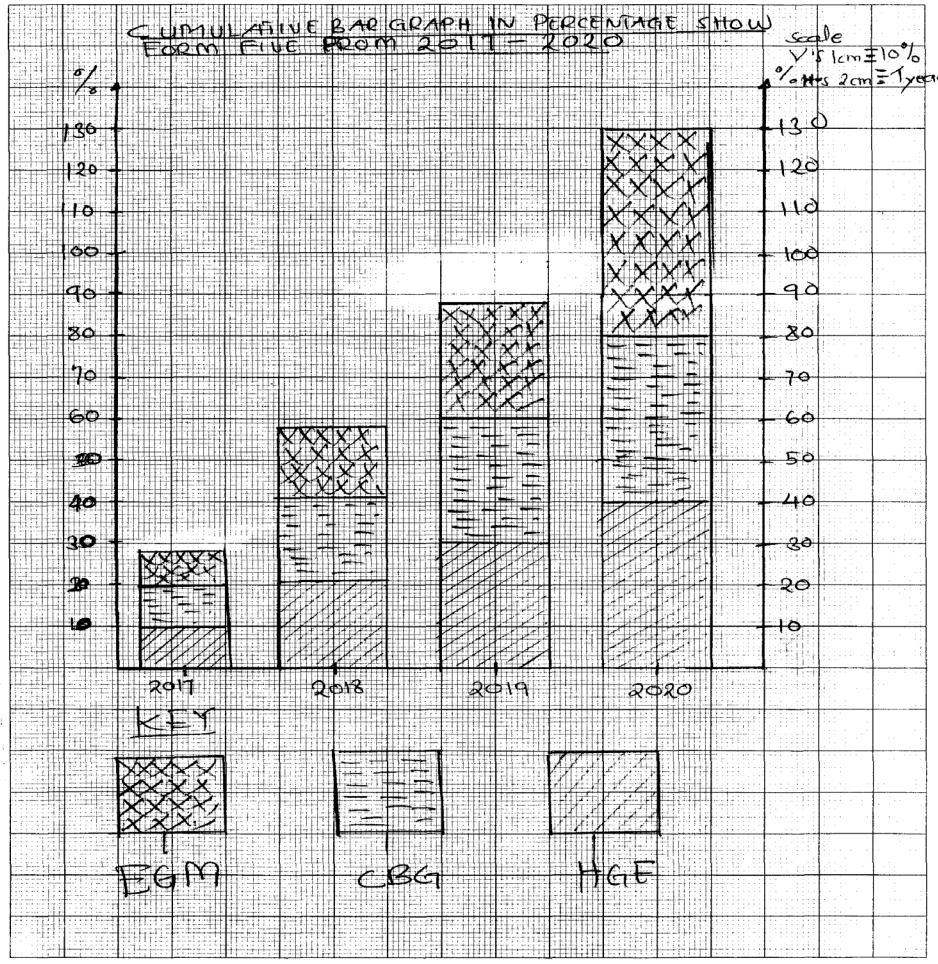
$\frac{243}{1496} \times 100\% = 16\%$

$\frac{423}{1496} \times 100\% = 28\%$

$\frac{730}{1496} \times 100\% = 50\%$

	HGE	EGM	CBG
2017	10%	7%	10%
2018	21%	16%	20%
2019	30%	28%	30%
2020	40%	50%	40%
TOTAL	100%	100%	100%

GRAPH ON BACK OF THE EXAMINATION.



b, Strength

i, It shows more than one data

ii, Important of geographical data analysis

Weakness

i, It consumes time

ii, It involves alot of calculation

c, The trend of enrolment of students for EGM classes increase from year to year

Extract 3.2: A sample of an incorrect response for question 3

In extract 3.2, the candidate failed to correctly compute data into percentage. In the second part, the candidate drew a *compound bar graph,* instead of the *percentage cumulative bar graph*. This indicated

that the candidate lacked knowledge of computing data into the percentage. The candidate also lacked knowledge and skills of how to draw a percentage cumulative bar graph and to differentiate compound bar graph from percentage cumulative bar graph.

Section B: Water Masses, Space Dynamics, Position, Behaviours and Structure of the Earth, and Study of Soils

2.1.4 Question 4: Water Masses

This question required the candidates to *analyze six factors that influence the ocean water movement*. The question carried a total of 20 marks. It was answered by 31,616 (58.8%) candidates. The general performance was good because 22,993 (72.73%) candidates scored 7 marks and above. Further analysis showed that, 11,132 (35.21%) candidates scored 12 to 20 marks, 11,861 (37.52%) scored 7 to 11.5 marks and 8,623 (27.27%) scored 0 to 6.5 marks. Figure 4 illustrates the performance of candidates for this question.

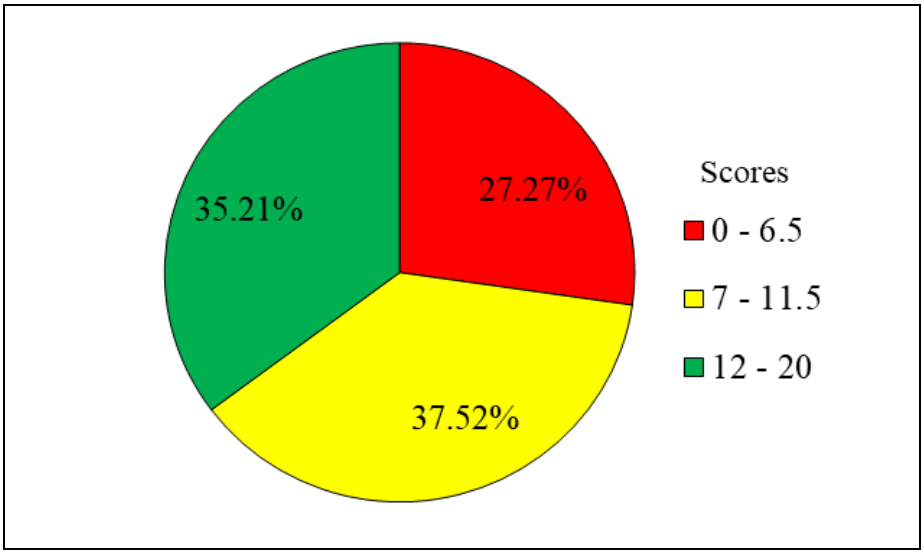


Figure 4: *Candidates' Performance for Question 4*

More analysis showed that 11,132 (35.21%) candidates who scored 12 to 20 marks had sufficient knowledge of the topic of *Water Masses,* specifically on the concept of ocean water movement. Some of them

scored higher marks because they wrote relevant introduction. For example, one candidate wrote, *ocean water movement involves the movement of water either horizontal movement (ocean currents) or vertical movement (tides / waves).* Also, they analysed correctly the six factors that influence oceanic water movement as follows:

(i) Earth's rotation, the rotation of the Earth influences the direction of ocean currents, such current are deflected to the left side in the Southern hemisphere and to the right in the Northern hemisphere.

(ii) Gravitational pull between the Earth and the Moon and the Sun.

(iii) Wind, when wind blows on the surface of ocean water, the friction between wind and water develops waves movement. The longer the duration of the wind blow, the larger the ocean water movement and vice versa.

(iv) The shape of the land mass or ocean topography. The land mass influences the direction of the flow of ocean currents.

(v) Temperature, influences the direction of the flow of ocean currents in which warm ocean currents flows from a high temperature zone. For example, the Mozambique ocean current.

(vi) Salinity or density of the ocean water. Area with high salinity tends to have high density which leads to vertical movement of oceanic water.

(vii) Tectonic forces/ earth quakes/tsunami.

Finally, they provided relevant conclusions such as, *ocean current plays a significance role in shaping the ocean coast hence influence fish colonies and sites for tourist attractions*. The variations of their marks was a result of the strengths and accuracy of their responses. Extract 4.1 illustrates correct responses for this question.

4. Ocean water movement involve movement of ocean water, it may be of two kinds either horizontal known as ocean currents and vertical known as tides. The water in ocean move due different factors.

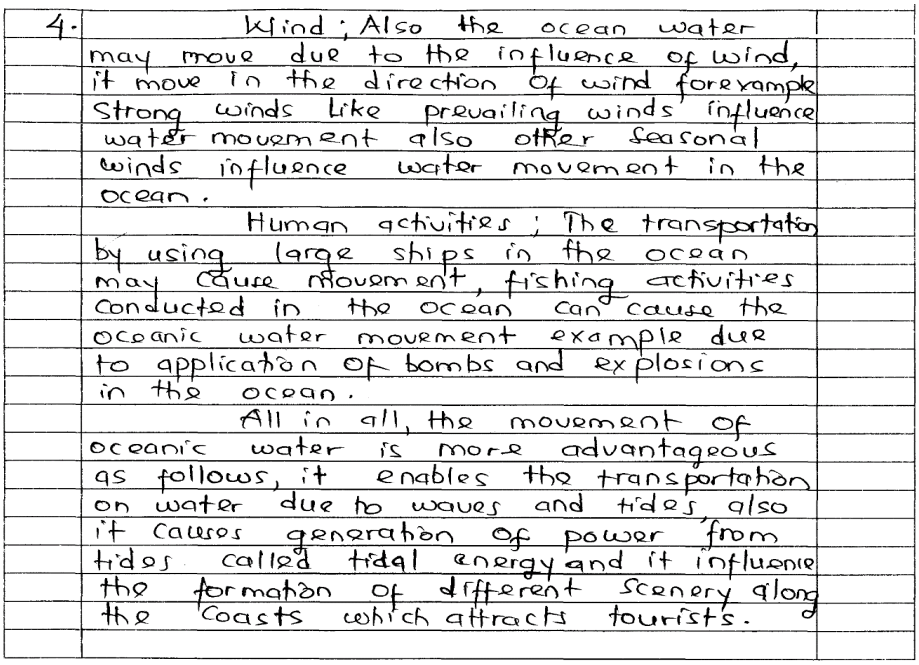
Some of the factors are as follows;

Earth and moon gravity; The gravitational pull between the earth and the moon cause water in the ocean to move, this is known as high and low tides which occur daily in the oceans.

Rotation of the earth; As the earth rotates on its own axis it generate a force called colioris force which causes deflection of objects towards left on the norther hemisphere and rightwards on the southern hemisphere, this includes the water in ocean hence movement.

Tectonic forces; Different endogenic forces leads to ocean water movement, forexample the occurance of earthquake or volcanism influence much ocean water to move in different direction called ocean currents.

Centrifugal force; Also as the earth revolve around the sun, there is a centrifugal force which goes away from the centre of the earth hence causing ocean water to move.


4. Wind ; Also the ocean water may move due to the influence of wind, it move in the direction of wind forexample Strong winds like prevailing winds influence water movement also other seasonal winds influence water movement in the ocean.

Human activities ; The transportation by using large ships in the ocean may cause movement, fishing activities conducted in the ocean can cause the oceanic water movement example due to application of bombs and explosions in the ocean.

All in all, the movement of oceanic water is more advantageous as follows, it enables the transportation on water due to waves and tides, also it causes generation of power from tides called tidal energy and it influence the formation of different scenery along the coasts which attracts tourists.

Extract 4.1: A sample of correct response for question 4

The 11,861 (37.52%) candidates who scored 07 to 11.5 marks had moderate knowledge on the topic of *Water Masses,* especially the factors that influence the ocean water movement. Some candidates misconceived the factors that influence the ocean water movements with those that affect the temperature of a place. For example, one candidate wrote, *distance from the sea, latitude, altitude,* instead of the factors that influence the ocean water movement. Some of them wrote only few correct points, while other candidates mixed correct and incorrect responses. For example, one candidate wrote *change in Sea level, ice and snow melting,* where these are impacts of climate change.

On the other hand, 8,623 (27.27%) candidates who scored 0 to 6.5 marks had insufficient knowledge of the topic of *Water Masses,* especially the type of ocean water movements. Some candidates provided incorrect introduction. For example, one candidate introduced the question that, *ocean current is the movement of water from area with high pressure zone to the area with low pressure zone*, instead of *ocean water movement*. The candidate wrote some concepts found in the definition of wind. Other candidates mixed-up correct and incorrect

response. For example, one candidate wrote, *Altitude, Latitude, Aspect and Elevation.* These are the factors influencing temperature therefore, they were not correct responses in accordance to the demands of the question. Extract 4.2 is a sample of incorrect response for question 4.

4. Ocean; Is the largest water body in the world, and it is larger than all water bodies such as river, Lakes and seas. The following are the factors that Influence the Ocean water movement.

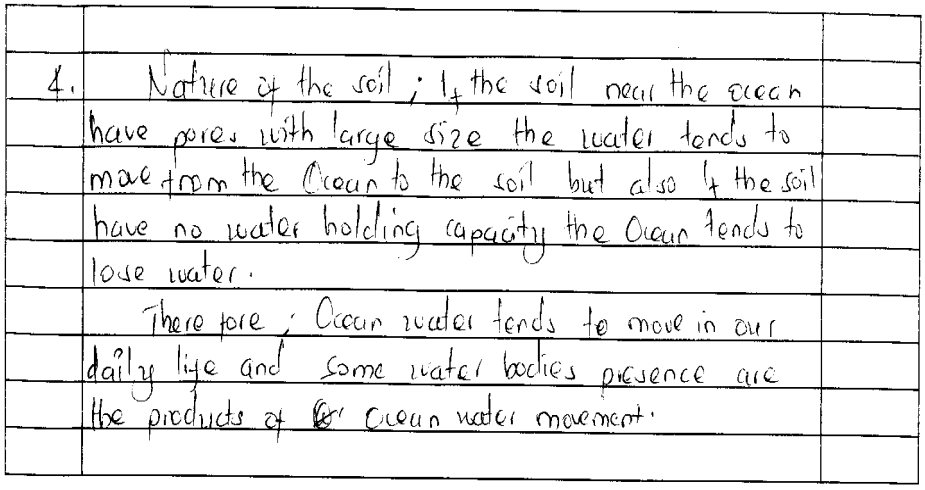
Climate; Climate affects the movement of ocean water where by during the dry climate water tends to move may be due to the occurrance of wind water move from one side to another side of the Ocean.

Relief; also topograph of the ocean may lead to the movement of Ocean water from ~~a~~ an area of high land relief or topograph to the one of low land relief or topograph due to the ~~pres~~ steepness of the part of an Ocean.

Vegetation cover; This can be the factor which influence the Ocean water movement where by water tends to move from the Ocean to the plants for transpiration process or In order for the plants to gain water through their roots.

Nature of the Underlying parent rock materials; Those also ~~effects~~ Is influence the Ocean water movement where by water tends to penetrate downward in an area with the permiable rock, so ~~the~~ the presence of permiable rock down the Ocean can lead to the Ocean water movement.

Drainage system; Also this Influences the movement of Ocean water from the Ocean to the tributaries where by due to the presence of many tributaries ~~in~~ across the Ocean can lead to movement of Ocean water.


4. Nature of the soil ; If the soil near the ocean have pores with large size the water tends to move from the Ocean to the soil but also If the soil have no water holding capacity the Ocean tends to lose water.

There fore ; Ocean water tends to move in our daily life and some water bodies presence are the products of the Ocean water movement.

Extract 4.2: A sample of an incorrect response for question 4

In extract 4.2, the candidate analysed the factors influencing availability of underground water such as *climate*, *relief*, *vegetation cover*, *nature of the underlying rock*, *braided stream and nature of the soil.* The candidate had to analyse the factors for ocean water movement which are *rotation of the earth, gravitational force, wind, ocean topography, temperature, salinity*.

2.1.5 Question 5: Space Dynamics

In this question, the candidates were required to *justify* the statement that, *globally climate conditions are changing due to natural and man-made factors* by giving *eight points.* The question carried a total of 20 marks.

The question was answered by 51,127 (95.10%) candidates. The general performance was good since 44,653 (87.34%) candidates scored 7 marks and above. The analysis showed that, 26,187 (51.22%) candidates scored 12 to 20 marks, 18,466 (36.12%) scored 7 to 11.5 marks and 6,474 (12.66%) scored 0 to 6.5 marks. Figure 5 illustrates the performance of candidates for this question.

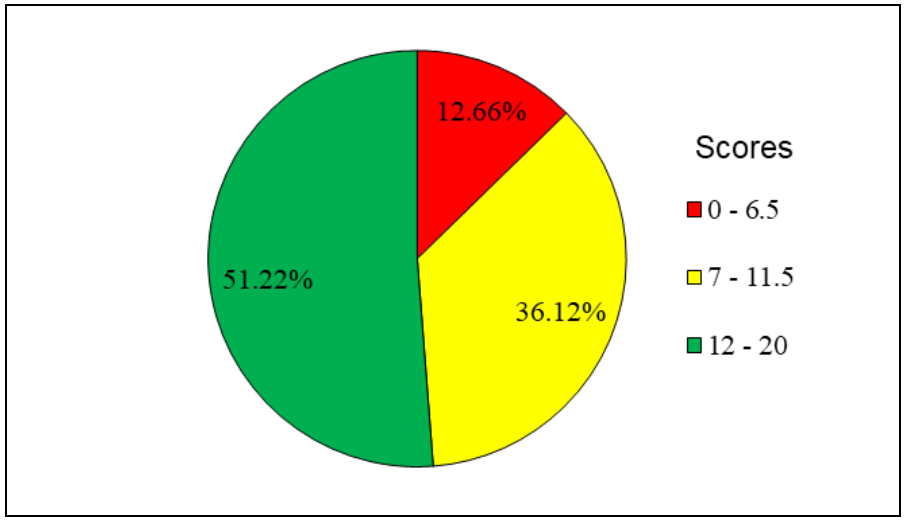


Figure 5: *Candidates' performance for question 5*

Further analysis showed that, 26,187 (51.22%) candidates who scored 12 to 20 marks had adequate knowledge in the topic of *Space Dynamics,* especially on the way natural and man-made factors influence climate change. Candidates who scored higher marks provided relevant introduction. For example, one candidate introduced the question that: *Climate refers to the average weather condition of an area which has been recorded over a long period of time, it might be over 50 to 70 years*. Likewise, they explained how natural and man man-made factors influence the change of climate conditions globally. For example, one candidate justified by giving the following points:

Natural causes

(i) *Variations in the solar energy* (*solar variation), sunspot activity which occurs in cycles may significantly affect our climate. Times of high annual temperature on the earth appears to correspond to periods of maximum sunspot.*

(ii) *Massive volcanic eruptions* (volcanic activity) *that emits greenhouse gases and lots of dusts into the atmosphere, may increase global temperature. The world temperature is lowered after any large single eruption due to increase in dust particles in the lower atmosphere which will absorb and scatter more of the incoming radiation.*

(iii) *Plate tectonics,* (continental drift) *Plate movements have led to redistribution of land masses and to long term effect on climate. This effect may lead to land mass drifting into different latitudes or from the seabed being pushed upwards to form high fold mountains which can lead to colder climate and can act as barrier to atmospheric circulation.*

(iv) *Ocean currents. Changes in oceanic circulation affects the exchange of heat between the oceans and the atmosphere. This can have both long-term effects on world climate and short-term effects such as EL-Nino.*

Human causes;

Human activities in different sectors in one way or another have contributed to the global climate change in the following ways;

(i) Industrial activities emit greenhouse gases, these gases steam from burning fossils fuel such as gasoline, coal, oil and natural gas.

(ii) Deforestation. Cutting down trees without planting new ones may result to the decrease in the absorption rate of carbon dioxide from an area. Likewise, reduces the supply of moisture to the atmosphere through transpiration.

(iii) Bush fire or charcoal burning may increase dusts particles as well as greenhouse effects or global warming.

(iv) Automobile engines emit smokes, carbon dioxide gas and other pollutants. These gases destroy ozone layer which later increases temperature through global warming or green house effects.

Extract 5:1 is a sample of a correct response for question 5.

5. Climate change refers to term used to ~~destro~~ describe all the processes which cause the atmospheric condition of a place to change over a certain period however the changes may be positive or negative. Recently, the world had a stable and favourable climatic condition because there was no dangerous activities done by man which were so destructive by the current 21st century the world is experiencing the changes in the climate condition such as the increase in temperature (global warming), drought, flooding, desertification among others, both triggered by both natural and man-made factors.

The following are the natural factors causing the global climatic change in the world;

Volcanic activity. The process of eruption of magma and other materials from the earths surface such as gases and liquids had been triggering the occurance of climatic change. During the volcanic eruption, there is emission of harmful gases such as Methane, sulphur and Carbon dioxide (CO_2) which spreads to the atmosphere and lead to the formation of greenhouse layer which had been the root cause towards occurance of global warming which affects the earth's climate negatively. Example in Kenya.

Plate tectonics or earth's movement. The movement of tectonic plate on the earth's asthenosphere had also been a trigger towards the climatic change. This is due to the fact that the regions have cold climate are shifting to

5 wards the areas with hot climate and vice versa is true. The earth's movement has also lead to the formation of features such as mountains, basin which then affects the temperature of a place. Forexample the regions around Kilimanjaro and Meru mountains.

The astronomical relationship between the sun and Earth, on the other hand there is periods when the sun is far from the Earth geographically known as Aphelion, for about 152 million Kilometres and the period when the sun is at the nearest position to planet earth knows as perihelion for 147 million kilometres. The changes on the distances of planet Earth from the sun have a direct influence on the climate of an area such that there is the period of high temperature and low temperature especially on the equatorial regions.

Solar variability. The variation on the amount of insolation received by Earth over different periods of the year has also different effects on the climate leading to climatic change. The variation on the solar insolation is experienced due to different seasons of the year, ocean currents, prevailling, slope, aspect and urbanization, cloud formation and Albedo among other however the areas receiving much insolation tend to be highly affected than those receiving low insolation.

On the other hand, man had been influencing climatic changes through the following factors.

5. Deforestation and clearing of vegetation. The rapid growth of population in the world has contributed to land scarcity in different parts of the world and therefore man had been clearing trees and other vegetation cover so as to establish settlement and to carry other economic activities such as agriculture, industrial activities which has therefore contributes to low Carbon fixation (CO_2) and atmospheric circulation of an area leading to great impacts on the climate of an area. Forexample in Congo basin and Nigeria.

Industrialization and urbanization. on the other hand the establishment of industries and urban centres has also contributed to climate change in the world. The Industries has been emitting harmful gases such as CO_2, Methane, Sulphur and ethane which have a great Impact towards the global climate.. The gases have been causing the occurance of global warming and acidic rainfall and depletion of ozone layer. Forexample In china and Japan.

Agricultural activities. Also the agricultural activities which encourages the use of Inorganic fertilizers, pestricides and machines have causing negative effects to the global climate. This is due to the fact that the chemicals tend to evaporate to the atmosphere and there constituents leads to the decline in production because it leads to the occurance of drought. other bad cultural practices includes, monocultural farming, shifting cultivation among others. for example in Kenya.

5

- Burning of fossil fuels and extraction of power. The burning of fossil fuels such as coal and nuclear energy and extraction of geothermal energy is also affective to the global climate because it leads to the emmision of harmful gases to the atmosphere such as Carbon dioxide (CO_2) and other radioactive elements to the atmosphere thus leading to the depletion of the shield protecting the earth. This is therefore causing the occurance of climatic change. For example the Fukushima nuclear power plants in Japan.

Generally, the human activities are the major factors towards the global climatic change in the world, therefore human actively must participate in monitoring and changing their activity so as to retain the nature. Some of the measures to be done is through afforestation and reforestation, proper agricultural activities must be done, Industries have to be allocated far from people settlement and the use of alternative sources of energy.

Extract 5.1: A sample of the correct response for question 5

The 18,466 (36.12%) candidates who scored 7 to 11.5 marks possessed average knowledge of the topic of *Space Dynamics,* particularly on the concept of climate change. Some candidates explained insufficiently the natural and man-made factors for climate change. Some did not provide relevant introduction and they mixed correct and incorrect factors for climatic change. Other candidates explained correctly the natural factors but failed to provide human factors for climate change. Some of them managed to mention only man- made factors.

On the other hand, the 6,474 (12.66%) candidates who scored 0 to 6.5 marks had inadequate knowledge of the concept of climate change. Some candidates managed to provide relevant introduction and conclusion, but failed to justify how both natural and man-made factors lead to change in climate conditions. One candidate provided relevant introduction and conclusion but misconceived the question as he/she explained the factors affecting temperature of a place such as *latitude, distance from the sea, vegetation, latitudinal location* as natural factors for the change of climatic condition. Another candidate misconceived the natural and human factors as on the main body he/she explained natural factors for climate change such as; *Volcanic eruption, Astronomical difference between the sun and the earth, falling of meteorites and plate tectonic movement*, as human factors and vice versa. Extract 5.2 illustrates such an incorrect response for question 5.

5

Climate refers to the general weather conditions that are recorded over a long period of time such as 30 years. Climate of an area can vary from place to place and from time to time, this is due to various reasons of factors which can either be man-made or natural factors. The following are some of the factors of the climate change in an area.

Vegetation, this refers to the general term of plants and trees in an area. This is a factor for climatic change because in the areas where there is dense vegetation then the climate is likely to consist of rainfall every now and then due to the evaporation of water from trees and plants while in areas with no vegetation there is little or no rainfall hence climate change.

Latitude this is the position of the (earth) place on the earth where the areas which are located at the equator, also others located in other areas differ in climatic condition therefore the latitude location of a place is also a factor of climatic change on the earths surface.

Altitude this refers to the factor that causes climatic conditions to change where as the altitude means that the earth areas which are elevated have different climatic conditions with other areas which are not elevated hence causing variation in climatic conditions.

Aspect this means that the areas which are elevated or mountaineous areas contain or have their own kind of climate

5. which is different from other areas. Hence this is another factor which leads to changing of the climatic conditions on the earth's surface.

Prevailing winds this refers to the movement of air from the areas of high pressure to the areas of low pressure. This is a factor for climate change because due to the movement of wind from one place to another it causes the change of the environment condition for instance if the area was cloudy the wind blows away the clouds hence climate changes.

Rainfall or precipitation, this is another factor for the change of climatic conditions whereby in the areas where there is high occurence of rainfall or precipitation it leads to cooling of the area because of existence of high temperature therefore rainfall occurs to stabilize the place hence change of climate conditions.

Presence of water bodies, this is also another factor for the change of climate whereby in the areas where they are close or near to the water bodies they experience stable climate and not harsh but the areas where are far from the water body they have different climate especially the desert areas.

Human activities these are the activities which are done or practiced by human beings for various purposes, there are other human activities which are done which affect the climate of the area such as the industrial activities which pollute the atmosphere hence destruct and lead to climate change.

5 Generally, the climatic conditions of a particular place are determined by the above factors therefore due to climate change it enables the occurence of various activities in its season for instance agriculture, tourism and others.

Extract 5.2: A sample of an incorrect response for question 5

In extract 5.2, the candidate described the factors affecting temperature such as *vegetation, latitude*, *altitude*, *aspects*, *prevailing wind* and mixed with irrelevant factors, instead of human and natural causes of climate change.

2.1.6 Question 6: Position, Behaviours and Structure of the Earth

In this question, the candidates were given the statement that, *Form five students from school X were heard saying that, the end of the sky is the end of the atmosphere.* The question required candidates to *classify the structure of the atmosphere so as to address the misconception*. They were also required to *support their answer with a diagram*. The question carried a total of 20 marks.

This question was answered by 46,369 (86.27%) candidates. The general performance was good since 41,803 (90.15%) candidates scored 7 marks and above. The analysis showed that 30,457 (65.68%) candidates scored 12 to 20 marks, 11,346 (24.47%) scored 7 to 11.5 marks and 4,566 (9.85%) scored 0 to 6.5 marks. Figure 6 illustrates the performance of the candidates for this question.

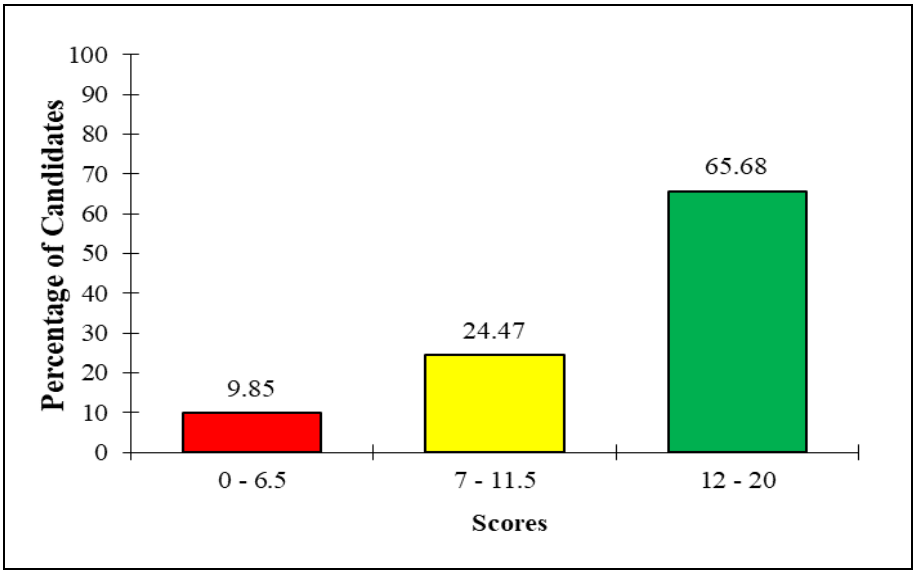


Figure 6: *Candidates' performance for question 6*

Further analysis in this question showed that the majority of the candidates 30,457 (65.68%) who scored 12 to 20 marks revealed adequate knowledge of the concept of atmosphere in the classification of the structure of the atmosphere. Some candidates provided relevant introduction about atmosphere, clearly described the four layers of the atmosphere and gave the characteristics of each layer. They also

sketched well labeled diagram showing the vertical section of the atmosphere. For example, one candidate provided a relevant introduction that, *Atmosphere is a thin layer of gases held above the earth's surface. The atmosphere consists of different gases like oxygen, carbon dioxide, argon and helium, which are important to living organisms*. The candidates arranged layers with correct descriptions for each basing on the depth, composition and temperature variations. For example, one candidate wrote;

(i) *Troposphere is the lowest and the first layer of the atmosphere, with the thickness of 17 km at the equator and 9km at the poles. It consists of 75% of gases, dusts and water vaporing the troposphere temperature decrease with increase in altitude at the late of 0.6% to every 100m. This refers to as an environmental lapse rate. This is the only layer which support the life of living things because weather elements occur in this layer.*

(ii) *Stratosphere it is next layer above troposphere. It is from 17km to 50km. in this layer temperature increases with the increase of height from -50^{0}c to 0^{0}c at the top of this layer. The process refers to the temperature inversion. In this layer at about 26km there is a layer called Ozone layer which trap the incoming ultra-violate radiation from the sun. At the top of this layer there is stratopause which separate this layer and mesosphere.*

(iii) *Mesosphere, this is the third layer of the atmosphere above stratosphere. The layer is from 50 km to 80km. This layer experience 3000km per hour and it is the coldest layer as at this layer temperature decrease up to -90^{0}c. It contains concentration of iron and metal.*

(iv) *Thermosphere this is the fourth layer or the highest layer of the earth's atmosphere. It is separated from the mesosphere by small zone called mesopause. At this layer temperature rise rapidly to about 1500^{0}c because of the ionization and atomic oxygen which absorbs incoming radiation like ozone layer hence reradiating of sun rays lead into temperature increase. The layer is electrically charged particles of ions and free electrons which facilitate radio short waves and wireless communication in the earth's surface.*

Furthermore, these candidates precisely sketched a graph indicating the vertical section of the atmosphere. Finally, they provided relevant conclusion. For example, one candidate concluded that; *Atmosphere is very important in human life as it influence different activities through element of weather. Also support wireless communication and protect the earth from ultra-violate rays*. The strengths and weaknesses of the responses led to the variations of their marks. Extract 6.1 is a sample of correct responses for question 6.

6. Atmosphere is a thin layer of gases above the earth's surface. The atmosphere consist of different gases like:- oxygen, carbondioxide argon and so forth which are important to living organisms for different purposes, the atmosphere not only consist of gases but also dust and water vapour. The atmosphere has an end by consisting of different layers which is vertically structured. The following is the structure of the atmosphere:-

Troposphere. This is the first layer of the atmosphere which consist of 75% of gases, dust and water vapour. This is the only layer which support the life of living things because weather elements occurs in this layer such as:- precipitation and temperature. In This layer is 8km at the poles to 17 km at the equator. In the troposphere temperature decreases with an increase in altitude at 0.6°C per 100m this is referred as environmental lapse rate.

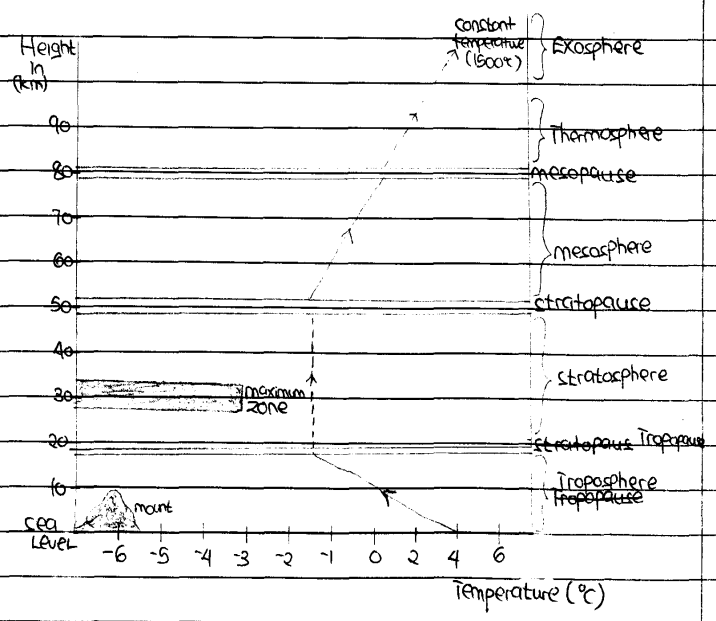
Stratosphere. This is the second layer of the atmosphere which is separated from the troposphere by tropopause. It is from 17km to 50 km. However, In the lower part of this zone the temperature is constant:- It is cloudless, no dust, no smoke or no air. In this layer temperature increases from -50°C to 0°C and the altitude also increases, It is referred as temperature inversion. In this layer, at about 25 km there's a layer called ozone layer which traps the ultraviolet radiations from the sun, which prevent them from reaching the Earth's surface.

Mesosphere. This is the third layer of the atmosphere which is separated from the stratosphere by stratopause. This layer is from 80km to 90 km. This layer experiences strong wind of about 250km/hr and it is the coldest layer. In this layer temperature decreases to -90°C or -100°C with an increase in altitude, this is referred as environmental lapse rate.

6. Thermosphere. This is the fourth layer of the earth's atmosphere ; It is separated from the mesosphere by a ~~layer~~ zone called mesopause. This layer experiences high temperature of about 1500 °C . In this layer temperature increases with an increase in altitude, It is referred as temperature inversion. This layer has high temperature due to the solar energy absorbed due to ionization and atomic oxygen. In this layer, there's another layer called Ionosphere which facilitate radio short waves and wireless communication into the Earth's surface. The thermosphere extends from 90km and more into space.

Exosphere. This is the layer which extends from 365km and above. This ~~is the~~ layer is dark and It's not yet investigated by the scientists

THE VERTICAL STRUCTURE OF THE ATMOSPHERE.

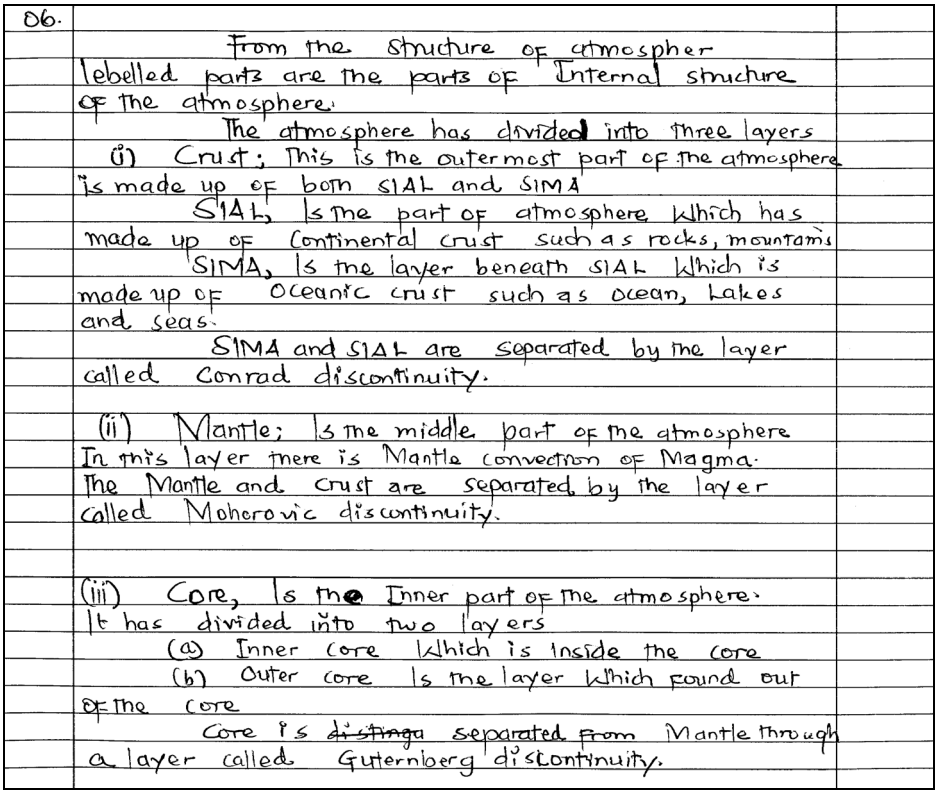


Therefore, the atmosphere is so important because, It provides oxygen to living organisms, provides natural resources in industries like:- argon gas , provides light to plants for photosynthesis and It provides the sky for birds , animals and insects to fly.

Extract 6.1: A sample of a correct response for question 6

In addition to that, 11,346 (24.47%) candidates who scored 7 to 11.5 marks had moderate knowledge of the concept of *Atmosphere,* specifically on the structure of the atmosphere. Most of them revealed insufficient knowledge of the characteristics of the atmospheric layers. Some candidates identified layers of the atmosphere with a well labeled diagram of the vertical structure of the atmosphere but gave out few correct characteristics of the layers. Others explained inadequately the characteristics of the atmosphere and did not provide a diagram.

The 4,566 (9.85%) candidates who scored 0 to 6.5 marks revealed little knowledge and skills on the structure of the atmosphere. Some of them provided insufficient introduction and one or two layers of the atmosphere without their characteristics. In addition, some candidates explained the internal structure of the Earth as *crust, mantle* and *core*, instead of layers of the atmosphere. Moreover, they provided a diagram of the structure of the Earth, instead of the diagram of structure of the atmosphere. Extract 6.2 is a sample of such incorrect responses for this question.

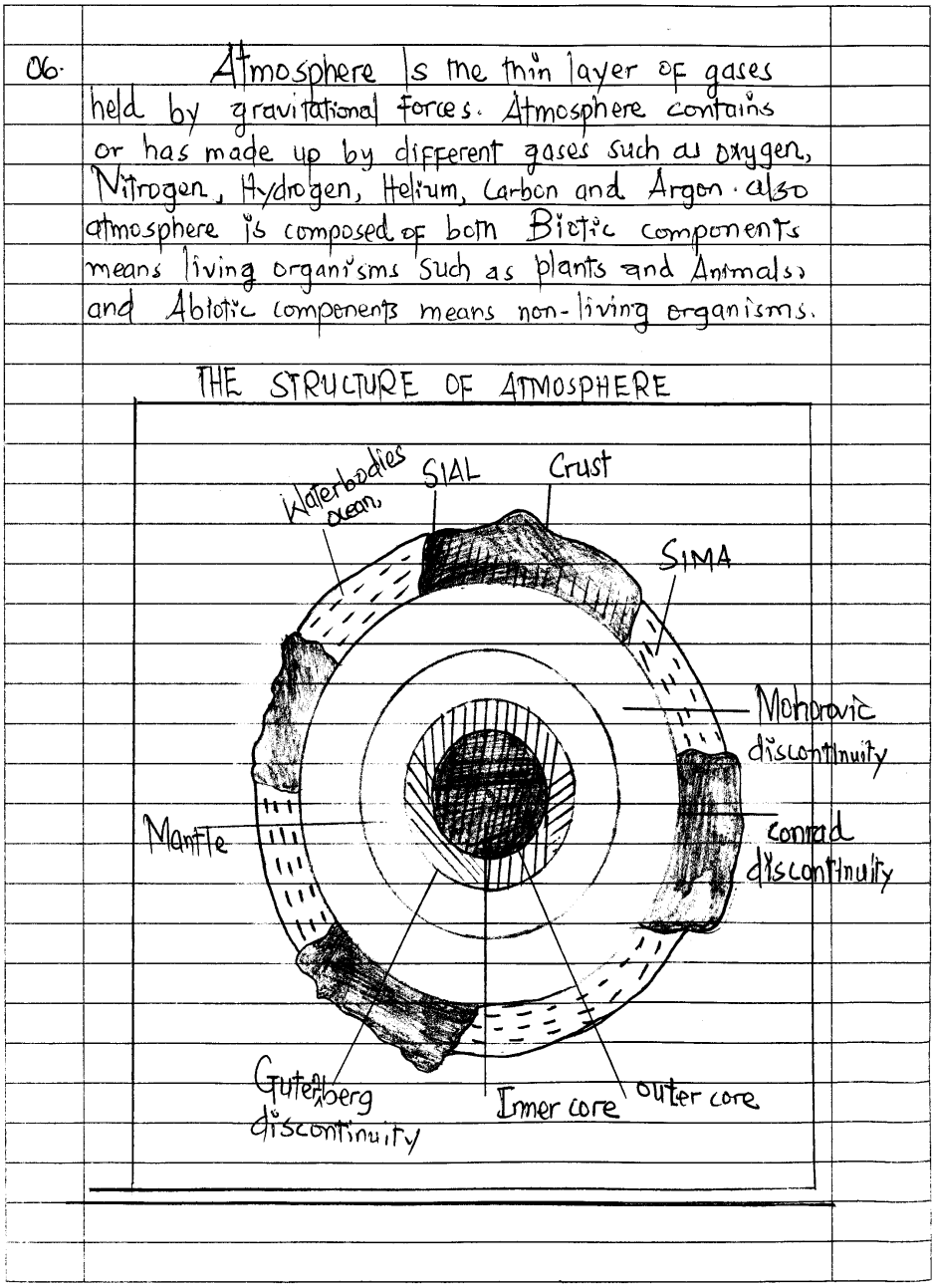


06.

From the structure of atmospher
lebelled parts are the parts of Internal structure
of the atmosphere.
The atmosphere has divided into three layers
(i) Crust; This is the outermost part of the atmosphere
is made up of born SIAL and SIMA
SIAL, Is the part of atmosphere which has
made up of Continental crust such as rocks, mountains
SIMA, Is the layer beneath SIAL which is
made up of Oceanic crust such as ocean, Lakes
and seas.
SIMA and SIAL are separated by the layer
called Conrad discontinuity.

(ii) Mantle; Is the middle part of the atmosphere
In this layer there is Mantle convection of Magma.
The Mantle and crust are separated by the layer
called Mohorovic discontinuity.

(iii) Core, Is the Inner part of the atmosphere.
It has divided into two layers
(a) Inner core which is inside the core
(b) Outer core Is the layer which found out
of the core
Core is ~~distinga~~ separated from Mantle through
a layer called Guternberg discontinuity.



Extract 6.2: A sample of an incorrect response for question 6

In extract 6.2, the candidate described the layers of the internal structure of the Earth, instead of the layers of the atmosphere. Additionally, the candidate supported his/her answer by drawing and labeling the internal structure of the Earth, instead of the structure of the atmosphere.

2.1.7 Question 7: Study of Soils

In this question, the candidates were required *to substantiate by using six points* the statement that, *Every soil has pore spaces holding water, but the amount of water varies from one place to another*. The total marks allocated for this question were 20.

This question was attempted by 31,421 (58.4%) candidates. The general performance was good because 26,948 (85.76%) candidates scored 7 marks and above. The analysis showed that 14,209 (45.22%) candidates scored 12 to 20 marks, 12,739 (40.54%) scored 7 to 11.5 marks and 4,473 (14.24%) scored 0 to 6.5 marks. Figure 6 illustrates the performance of the candidates for this question.

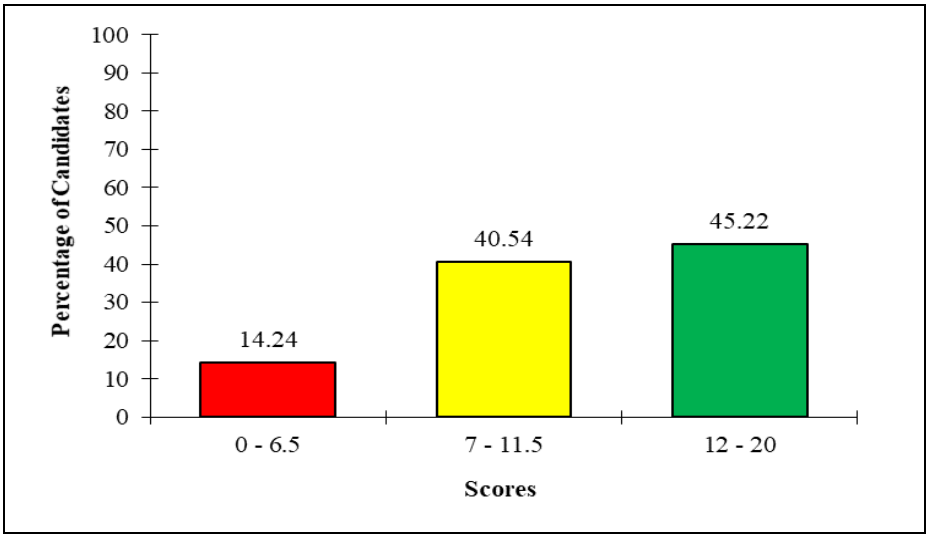


Figure 7: *Candidates' performance for question 7*

It was further observed that 14,209 (45.22%) candidates who scored 12 to 20 marks had sufficient knowledge of the topic of Study of Soils. They provided relevant introduction and correct factors which determine the variations in the amount of soil water. For example, one candidate defined soil water as *the soil component which makes 25 per cent of the total volume of the soil. In the soil body, water stays in pore spaces between individual soil particles. Soil water is obtained from rainfall and enters the soil through percolation and infiltration.* The

candidate explained correctly the factors which determine the variations in the amount of soil water such as:

(i) *Climate condition of a given place; in areas where rainfall is high like equatorial region there is high volume of soil water. In the areas with low rainfall and high rate of evaporation like arid region soil water is very low.*

(ii) *Organic matter content; soil rich in organic matter like clay and loam have high amount of soil water because organic matter particles fill the pore spaces hence soil retains water.*

(iii) *Slope or relief; soil in the area with steep slope has low water holding capacity because there is high rate of surface water run off which does not permit water to percolate into the soil, while in gentle slope or flat land, there is high volume of soil water because the rate of percolation is high.*

(iv) *Presence vegetation cover restricts surface water runoff hence influences high rate of percolation and protects high rate of evaporation. Hence soil holds high amount of water.*

(v) *Nature of the soil particle (soil texture); in the area where there are rough textured soils like sand, water penetrates easily, hence the soil holds low volume of water. Whereas in the fine textured soils like clay, there is high capacity of holding water.*

(vi) *Change of seasons; soil water varies from one season to another. This is in the sense that the year with abundant rain even the soil has high volume of water holding capacity and the vice versa is true, while other factors remain constant.*

(vii) *Soil depth and human activities; this is in the sense that, soil water varies with soil depth in which the top soil has low water holding capacity and deep soil has high water holding capacity.*

Variations of their scores depended on the clarity of their responses. Extract.7.1 is a sample of such a correct response for this question.

7. Soil water is the component of soil which constitutes the 25% of the soil whereby. Soil water is the amount of water presence in the soil since every soil has pore spares holding water but the amount of water varies from one place to another the following are the factors for the variation and which influences soil water in an area as explained below;

Precipitation; this is one of the factors which influences the amount of water in the soil where by the areas which have high amount of soil water it means that they experience high precipitation therefore the pore spaces of soil are filled with water but the areas with little precipitation the soil moisture of that area becomes low therefore low amount of soil water.

Soil texture; soil texture also influences the amount of water present in the soil whereby the sand soil have rough texture hence have large pore spaces therefore poorly drained which leads to small amount of soil water but the clay soil has small pore spaces hence can retain much soil water hence variation of soil water in different places.

Topography ; this also influences the soil water where by the areas uphill have little

7. Vegetation; the presence and absence of vegetation also causes the variation in the amount of water in the soil where by areas with presence of vegetation they tend to have high and much soil water because the vegetation retains water in their plant roots as well as influences the rate of precipitation compared to the ~~areas~~ areas with no vegetation which have little soil water therefore variation in the soil water.

Nature of the rock; if the rock in the place are permeable rocks which influences and facilitates the movement of water into it then the soil of that area will have high soil moisture compared to the areas whose rocks are impermeable rocks which do not facilitate water percolation in to the ground the amount of soil water will be small.

Temperature; this also influences the soil water variation whereby areas with high temperatures tend to have low and little amount of water present in the soil compared to the areas with low temperature due to the low rate of evapouration they tend to have high soil water hence variation.

Generally; the soil water is very important component of the soil because it facilitates germination of seed, provide water to the microorganism, it also facilitates photosynthesis in the plant making there own food due to availability of soil water.

Extract 7.1: A sample of correct responses for question 7

The 12,739 (40.54%) candidates who scored 07 to 11.5 marks had moderate knowledge of the concept of *Study of Soils,* particularly the concept of soil water. Those candidates explained inadequately the factors which determine variations in the amount of soil water. Some candidates mixed correct and incorrect factors. Examples of incorrect answers provided were; *amount of rainfall, distance from water bodies,*

amount of evaporation, nature of the vegetation cover, nature of parent materials and human activities.

Furthermore, the 4,473 (14.24%) candidates who scored 0 to 6.5 marks showed lack of knowledge of the concept of soil properties in association to the factors influencing water holding capacity in the soil. Some candidates managed to give only one or two correct responses. For example, one candidate defined soil as *the particles which are found on the sand which support plant growth.* The candidate gave insufficient explanations on the factors which determine variations in the soil water by writing, *sandy soil is the type of soil which has large space to allow water to pass through which failed to hold water due to large pore space*. The rest of the points were repetitions as the candidate wrote *clay soil, loam soil, silt soil,* where by all these were under one factor that is *soil texture.*

2.2 113/2 GEOGRAPHY PAPER 2

This paper consisted of seven questions which were set from two topics*; Population and Developmen*t, and *Regional Focal Studies*. Question 1 and 2 were set from the topic of *Population and Development* while question 3, 4, 5, 6 and 7 were set from the *Regional Focal Studies* topic in the following subtopics; *Agricultural Development, Transport and Communication, Sustainable Use of Forestry, Sustainable Use of Fuel and Power* and *Manufacturing Industries*. The candidates were required to attempt five questions, whereby question number 1 was compulsory. Each question carried 20 marks.

2.2.1 Question 1: Population and Development

The question was compulsory and candidates were given the following statement "*The United Republic of Tanzania conducts population census on every 10th year*". Then, they were required to *describe eight population characteristics of the 2012 census in Tanzania.*

The question was answered by all 53,761 (100%) candidates. The general performance was average since 18,985 (35.31%) candidates scored 7 marks and above. The detailed analysis showed that 4,984 (9.27%) candidates scored 12 to 20 marks, 14,001 (26.04%) scored 7 to 11.5 marks and 34,776 (64.69%) scored 0 to 6.5 marks. Further illustration of candidates' performance is found in figure 8.

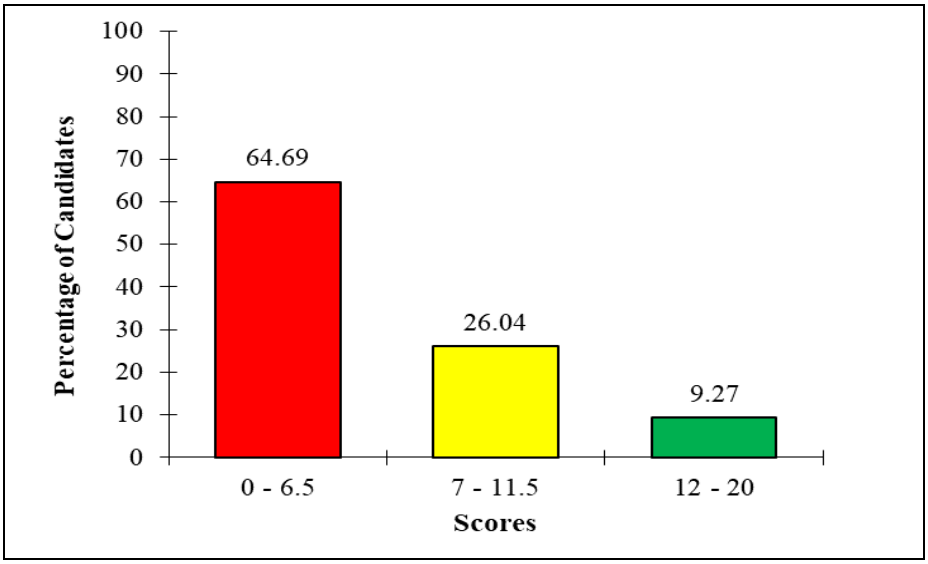


Figure 8: *Candidates' performance for question 1*

Further analysis showed that 4,984 (9.27%) candidates who scored 12 to 20 marks understood the demands of the question. The candidates had adequate knowledge and skills in assessing the characteristics of population by referring to 2012 census in Tanzania. For example, one candidate defined population as *a number of humans occupying a certain geographical area at a specific period of time*. Also, the candidate defined population census as *the process of collecting, compiling, and publishing demographic, economic and social data pertaining to a specific time to all people in a country*.

The candidate described correctly the eight population characteristics of the 2012 census in Tanzania as; *high growth rates*, *it was unevenly distributed over the Earth surface*, *population was dynamic in the sense of migratory*, *increase in urban households*, *Tanzania had young population of 43.9 percent*, *it had unproportioned age- sex structure, it*

had low maternal and infant mortality rates, *it was characterized by the presence of diseases such as HIV/AIDS* and the increase of *life expectance*. Those candidates supported their answer with relevant examples. The variations in their scores were influenced by the strengths and accuracy of their responses. Extract 8.1 is a sample of a correct response for this question.

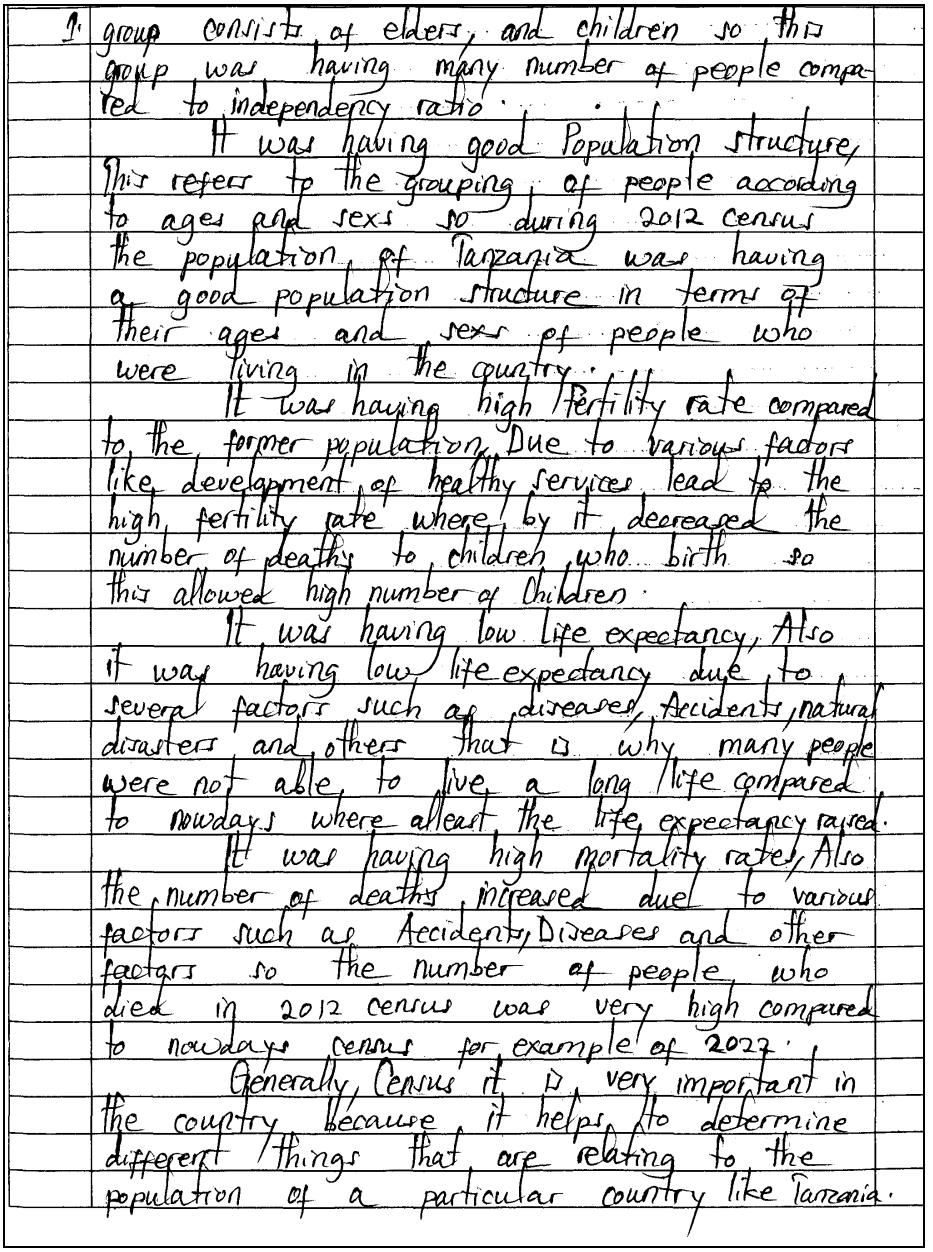
1. Population, Refers to the total number of people in a particular country like Tanzania; Census, refers to the process of numerating or counting people in a particular place or country. The following were the characteristics of the ~~2012 Cen~~ population of Tanzania of the 2012 Census.

It was unevenly distributed, Population of Tanzania was unevenly distributed means that the number of people were varies from one region to another for example the number of People who were living in Mbeya was differ to those who were living Iringa due to various factors.

It was dynamic, Population was dynamic where by it undergone some changes that are increase of people or decrease of people so through 2012 census the number of people increased due to several factors compared to the number of people who were living in Tanzania in 2002 census.

It was faced with different problems, Also the population of 2012 census was faced with problems like unemployment, Diseases, Crimes and others because in many population the problems are inevitable so that is why even that population of that year was faced with differ problems.

It was having high dependency ratio, Also population of Tanzania in 2012 census it was having many number of people who were not involved in economic activities such as Agriculture, Trade, Minning and others and this



1. group consists of elders and children so this group was having many number of people compared to independency ratio.

It was having good Population structure, this refers to the grouping of people according to ages and sexs so during 2012 census the population of Tanzania was having a good population structure in terms of their ages and sexs of people who were living in the country.

It was having high fertility rate compared to the former population, Due to various factors like development of healthy services lead to the high fertility rate where by it decreased the number of deaths to children who birth so this allowed high number of children.

It was having low life expectancy, Also it was having low life expectancy due to several factors such as diseases, Accidents, natural disasters and others that is why many people were not able to live a long life compared to nowdays where atleast the life expectancy rised.

It was having high mortality rates, Also the number of deaths increased due to various factors such as Accidents, Diseases and other factors so the number of people who died in 2012 census was very high compared to nowdays census for example of 2022.

Generally, Census it is very important in the country because it helps to determine different things that are relating to the population of a particular country like Tanzania.

Extract 8.1: A sample of the correct response for question 1

Furthermore, 14,001 (26.04%) candidates who scored 7 to 11.5 marks had moderate knowledge in the concepts of population characteristics, especially that of 2012 census in Tanzania. Some candidates provided correct introduction and general characteristics of population with

unsatisfactory descriptions. Some of them provided only few characteristics of population referring to 2012 census.

On the other hand, 34,776 (64.69%) candidates who scored 0 to 6.5 marks lacked knowledge and skills of attempting this question. Some of them provided irrelevant introduction of the population census, mixed correct and incorrect characteristics of the population referring to 2012 census in Tanzania. Most of the candidates in this category misinterpreted the question by describing the characteristics of census instead of characteristics of population with reference to 2012 Tanzania Population Census. Others mixed the characteristics of human population with the characteristics of census. Extract 8.2 is an example of incorrect response for question 1.

1. Population refers to the number of people that occur in a particular geographical unit. Census refers to the enumeration of people in the country inorder to attain some demographic goals. There are two types of census that is According to Approach that is De jure census and De Facto census and According to Time Interval that is Quinquinneal and Deccenial census. The following are the population characteristics of the 2012 census in Tanzania:

Periodicity, this is the counting of people at a particular period of time. It is one of the population characteristic of census because it involves the enumeration of people after a certain period of time. Tanzania usually conduct it's census after 10 years, thus the last census was conducted in 2022 after a period of ten years from 2012.

Specifity, this is another characteristic of population census because it is done in a specific, territory or a country, it is not done elsewhere apart from Tanzania, it is conducted specific in the territories within Republic of Tanzania. Forexample, it can be done specificly in Dar-es-salaam, Dodoma and Tabora.

Simultaneously, this is the third population characteristics of 2012 census because it is conducted simultaneously meaning at the same time in each specific territory in the country. It means that census

1. cannot be conducted at the same uniform time In the country but it usually starts at Midnight, hence population characteristic of 2012 census In Tanzania.

Individual enumeration, this means that every Individual of Tanzania is required to be listed Inorder to enumerate all people available In Tanzania. Thus, every citizen must be counted Inorder to determine the Total Number of People In the country. Thus, It is the Forth population characteristic of census In Tanzania during 2012.

Costful, during the conducting of census, It uses alot of government's revenue by Making Sure and Supervising that all people should be counted also conducting census uses alot of Money from It's processes till the end, hence population In Tanzania during the conducting of census is too costful, thus population characteristic of 2012 census In Tanzania.

Universility, It means that census is conducted all over the country. Inorder to obtain the total number of people In the country, All people all over the country should be enumerated that is Important because If other people won't be counted, It Lacks this character of population census In the United Republic of Tanzania.

Faces Problems, this is the seventh population characteristic of census because during the processes of census, the people

1. responsible Often faces problems like Expensiveness, Remoteness of some Areas and also Language Barrier among the Natives. Thus, the people who are responsible In the collection of data usually Faces Problems In the country.

Unevenly Distributed, this can either be High population, Medium or Low population. This is another population characteristic of census because not all of the country has a balanced population, It differs from place to place. Forexample, In Dar-es-Salaam, there is High population compared to other regions, that's why It is unevenly distributed throughout the country.

All in all, population census is very much Important In Tanzania because It helps to determine the Total Number of People basing on age and Sex, Helps In Determining the Number of Literate and Illiterate People, Helps In the Proper provision of Social services and Lastly Helps In the planning of the National Budget In the Nation at Large.

Extract 8.2: A sample of incorrect response for question 1

In extract 8.2, the candidate explained the characteristics of census such as *periodicity*, *specificity, simultaneously*, *involves individual enumeration*, *it is costly*, *universality*, *face problems* and *unevenly distributed* contrary to the demand of the question. Such incorrect responses revealed that some candidates failed to understand the demand of the question.

2.2.2 Question 2: Population and Development

The candidates were given the statement that, "*In Africa there is a rampart rural urban migration mostly of the young generation*". Then, the candidates were required to *account for three causes and three effects of the movement*.

The question was attempted by 51,247 (95.30%) candidates. The general performance was good since 50,962 (99.65%) candidates scored 7 marks and above. Further analysis showed that 47,372 (92.44%) candidates scored 12 to 20 marks, 3,696 (7.21%) scored 7 to 11.5 marks and 179 (0.35%) scored 0 to 6.5 marks. Figure 9 illustrates the performance of the candidates for this question.

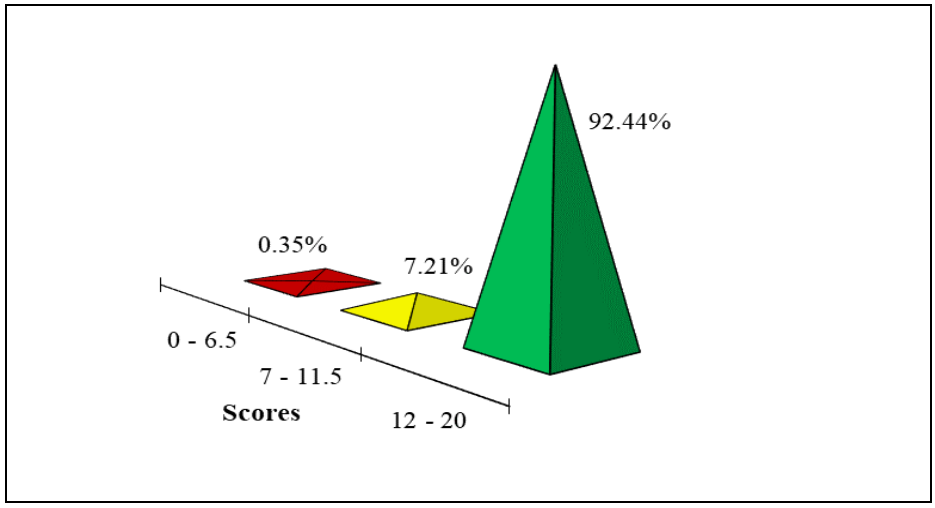


Figure 9: *Candidates' performance for question 2*

The detailed data analysis showed that 47,372 (92.44%) candidates who scored 12 to 20 marks focused precisely on the question demands. Those candidates gave relevant introduction on the concept of rural urban migration and accounted for three causes and three effects of rural urban migration among the young generation. For example, one candidate defined rural urban migration as; *the movement of people from rural areas to urban areas for the aim of enjoying good life in urban centers due to the availability of social economic services like hospitals, schools, markets, efficient transport and entertainment*. The

candidate accounted for the three causes for rural urban migration as: *absence or poor social services in rural areas, poor infrastructure which hinder transportation system in rural areas* and *absence of employment and industries in rural areas.* The candidate further explained the three effects of the rural urban migration as; *inadequate labour power, imbalance population structure which results to high population structure, breaking of family and cultural bounds, unemployment in urban areas* and *poor housing due to overpopulation.* Extract 9.1 illustrates such a correct response for question 2.

2. Migration refers to the movement of people from one place to another. There are four types of migration, which are rural - urban migration, urban - rural migration, rural - rural migration and urban - urban migrate. People migrate due to climatic conditions, relief, availability of social services, and so many others. Migration has its positive effects in the environment such as increase number of labour, and so on. In our communities, the most practised migration is rural - urban migration. The following are the causes of rural - urban migration mostly to the young generation.

Search for employment opportunities, most people in rural areas especially the youth migrate to urban areas so that they can search for employment because their is no employment in rural areas rather than agricultural activities, which is practised by many Example, a young girl aged nineteen migrates from rural areas to urban areas so that she can be employed as a house girl in order to get money to reach her basic needs. Also, others migrate so that they can work as cleaners in industries because most of them are illiterate.

Search for social services, most people in rural areas especially the youth migrate to urban areas so that they can search for social services such as health services, education and so on. This is because rural areas are not provided with appropriate social services and they are also unevenly distributed. Example; pe a pregnant woman who wants to concive, but where she lives there are no health centers nearby, so she has to move to urban areas where there is availability of good health services, water services and so on.

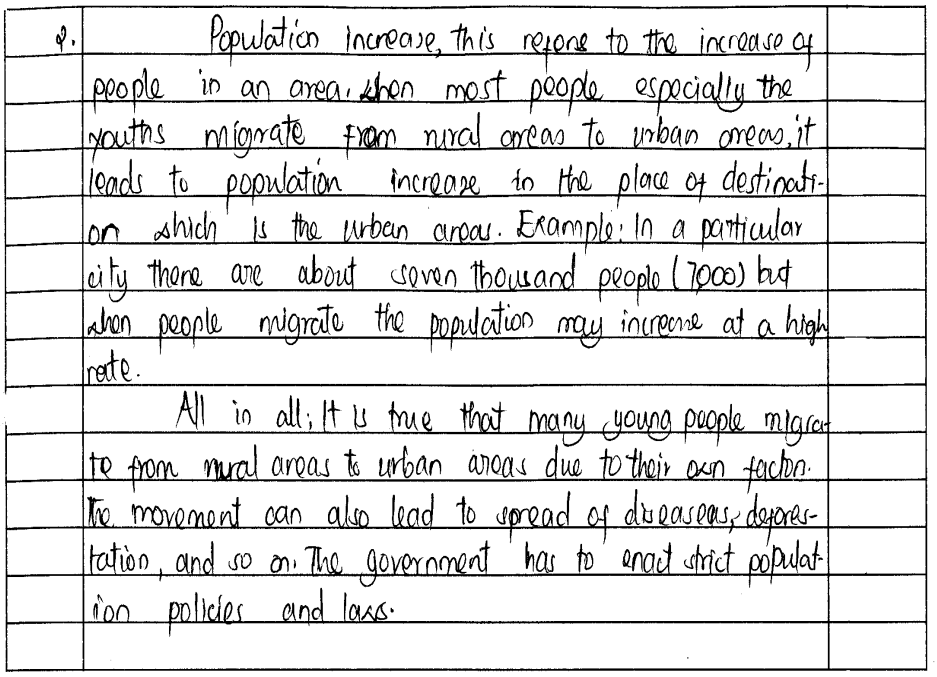
Due to trading activities, most people from rural areas, migrate to urban areas due to trading activities.

2. Example; a person is selling vegetables which are mostly grown in rural areas, but when he does that business in urban areas he still get more profit because there is unavailability of vegetables because people don't cultivate crops. So, this makes people to migrate to ~~rural~~ urban areas in search of market that can provide them money.

The following are the effects of the movements:

Increase of crimes, when intensive rural-urban migration occurs especially by young people, increase of crimes also appears on the destination area which is the urban area. Example, when a person has come to look for job but he is unfortunately influenced by groups of gangs who engage themselves in theft, drug abuse, and so on. A good example is in Dar-Es-Salaam in Tanzania, where most people migrate from rural areas to Dar-Es-Salaam but they are influence of peer-pressure groups who engage themselves in drug abuse theft, and so on. That is why there is no shortage of crimes in Dar-Es-Salaam and other urban areas.

Loss of man power, when many people migrate ~~from~~ rural-urban loss of man power occurs on the area of origin which is rural areas. Loss of man power occurs because most people migrate to urban areas in which people who are considered to increase manpower are the ones who have migrated and have left old and children who can not conduct activities such as agriculture. Example; almost a half and a quarter of young people in the area have migrated to urban areas, this leads to decline of agriculture activities because rural areas are depended on agriculture. So if the people who can conduct agriculture in the society are absent, then ~~map~~ man power decreases.


Q. Population increase, this refers to the increase of people in an area. When most people especially the youths migrate from rural areas to urban areas, it leads to population increase to the place of destination which is the urban areas. Example: In a particular city there are about seven thousand people (7000) but when people migrate the population may increase at a high rate.

All in all; It is true that many young people migrate from rural areas to urban areas due to their own factors. The movement can also lead to spread of diseases, deforestation, and so on. The government has to enact strict population policies and laws.

Extract 9.1: A sample of correct response for question 2

A total of 3,696 (7.21%) candidates who scored 7 to 11.5 marks demonstrated moderate knowledge of the tested topic. Some candidates gave relevant introduction of rural urban migration and accounted for the causes and effects of rural urban migration insufficiently. Some candidates did not exhaust all the six points demanded by the question. Others provided only effects of the rural urban migration without conclusion, while others provided only causes of rural urban migration with irrelevant conclusion. Examples of incorrect effects of rural urban migration are; *it leads to failure in the government budget*, *it leads to overpopulation*, and *political factor*.

On the other hand, 179 (0.35%) candidates who scored 0 to 6.5 marks showed limited knowledge on the concept of rural urban migration because they failed to meet the demands of the question. Few candidates provided relevant introduction of the concept of rural urban migration, but accounted incorrectly the causes and effects of rural urban migration. They also failed to provide examples to their answers. For example, one candidate provided incorrect causes of rural urban migration; *harsh climatic conditions, fertile soil* and *political factor*.

Furthermore, the candidate mixed the correct and incorrect effects of rural urban migration as; *overpopulation, unemployment* and *shortage of social services*. Extract 9.2 is a sample of incorrect response for this question.

02. Migration refers to the movement of settlement areas from one place to another place. In African countries mostly of the number of young generation tends to migrate from rural settlement to urban settlement where they get mostly their needs compared to rural settlements. There are the major causes and effects which are caused by migration. The following are the causes of rural urban migration.

Climate:- The climate of an area also favouring young generation to move from rural settlement to urban settlement, where the area with poor climatic condition or harsh condition people will tend to move from one area to the other area for the purpose to have a good climate condition, where they can have their own things to do in order to satisfy their life.

Relief:- The slope of an area also it influence the migration of people from one place to another place where as it shown to many countries where the area or nature of an area favours a person to engage in migration where there highlands and low lands area, which makes the people to have rural urban migration, for example in Dar es-salaam, where there are highly number of people.

Mining and energy resources:- The extraction of minerals also it leads to the influence of the migration of people from one area to another area where as it shown that the movement of people is for searching minerals, for example in Tanzania at Geita katoro, where there are highly population of people due to the gold mining found at that place and Mwadui in shinyanga also there are highly number of people due to the diamonds minerals presents to an area,

02. The following are the effects which can be occured due to rural urban migration.

Developments of town and cities:- Due to the movements of people from one area to the other area, where from rural to urban settlements, its leads to the development of town and cities, forexample in Dar es salaam at Tanzania where there highly number of migrants people which leads to the developments of such cities and town.

Improvements of transpait and communication:- Due to the movements of people from rural to urban settlements which leads to the occurances of town and cities, which leads to the improvements of good infrastructures like the transportation roads to be in standard form and the construction of communication networks to such area as it shown in Dar es salaam at Tanzania.

Income generation:- The rural to urban migration also leads to the income generation as it shown to many areas where there are high population of people also leads to the facilitates of trade which they must contribute the payment of taxation to the society and leads to the emprovements of income generation to the country, forexample of the trade conducted at kariakoo in Dar es salaam leads to the contribution of income generation.

In conclusively:- Not only that the rural to urban migration leads to positive effects but also the negative effects which are it leads to environmental polution, emergence of classes, political instability and introduction of new deasesos.

Extract 9.2: A sample of an incorrect response for question 2

In extract 9.2, the candidate failed to account for the causes and effects of rural urban migration, instead the candidate explained incorrect factors such as *climate, relief* and *mining*. In the second part, the candidate presented incorrect effects of rural urban migration such as

development of towns, *improvement of transport and communication* and *income generation*. This reveals that the candidate was not well informed about the causes and effects of young people to migrate from rural to urban areas.

2.2.3 Question 3: Agricultural Development

The candidates were given a statement that; "*Despite its economic significance, estate farming is faced with many problems"*. Then, they were required to *justify the statement by giving four significances and four problems of estate farming*.

This question was answered by 30,872 (57.40%) candidates. The general performance was good since 30,663 (99.32%) scored 7 marks and above. The analysis shows that, 28,350 (91.83%) candidates scored 12 to 20 marks, 2,313 (7.49%) scored 7 to 11.5 marks and 209 (0.68%) scored 0 to 6.5 marks. Figure 10 illustrates the candidates' performance for this question.

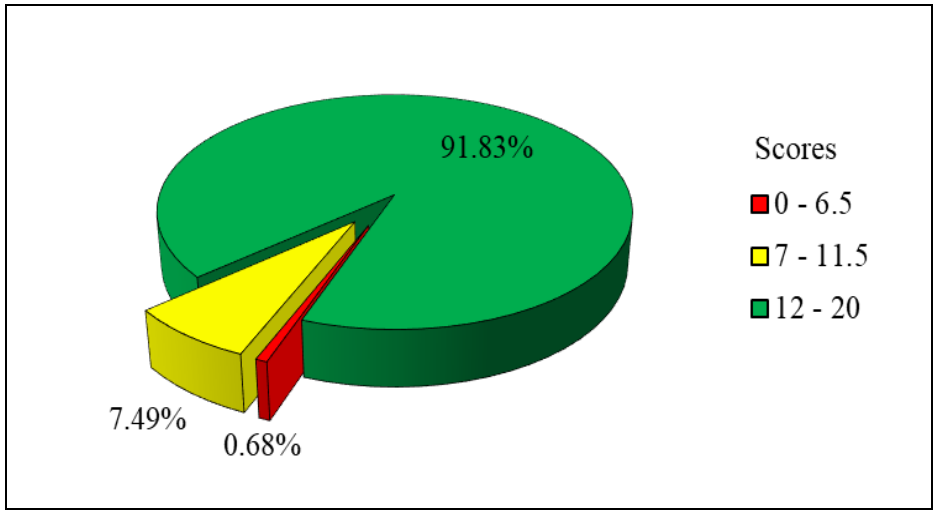


Figure 10: *Candidates' Performance in Question 3*

Further analysis showed that 28,350 (91.83%) candidates who scored 12 to 20 marks demonstrated sufficient knowledge and skills on the subtopic of *Agricultural Development,* specifically on estate farming. They organized and presented well their ideas. Their essays were well

constructed with comprehensive paragraphs and good flow of ideas. The candidates made relevant conclusion. For example, one candidate defined estate farming as; *a specialized commercial cultivation of cash crops on a large area more than 100 acres.* The candidate gave four significance of estate farming as; *it provides large number of employment opportunities, leads to improvement of local technology*, *it stimulates the development of transport and communication*, *it promotes the living standard of the people* and *it improves the generation of the government revenue.* In addition to that, the candidate gave four problems that face estate farming as*; land degradation, they are exploitative by nature, decline in food production where farmers concentrate on cash crops production, they are expensive as it needs high capital to invest* and *it leads to mass unemployment due to mechanization.* Lastly, the candidate drew a relevant conclusion. Extract 10.1 illustrates such a correct response for this question.

3. Estate farming refers to the agricultural practice which takes place of large area with the application of advanced science and technology. This is a commercial type of agriculture also known as Large scale agriculture. Estate farming is monocultural in nature and deals with the production of cash crops like sisal, cotton, cocoa, tobacco, coffee, rubber among others but also the food crops like maize, groundnuts, millet, beans among other are conducted or cultivated using this method. In most of the developing countries like Tanzania, estate farming is done by large companies and private organization, but also it involve the application of advanced science and technology such as the use of Tractors, seed drill and harvestors so as to yield high quality and plenty resources Inspite of the estate farming being significant still it faces some challenges.

The following are the significances of estate farming towards development;

It is a source of employment opportunities in a population. Estate farming has been a large source of employment especially to the young generation for both skilled and unskilled labours. The farming system accomodate the skilled personnel such as managers, operators and drivers but also the unskilled labour forces who contributes to the picking and packing or in harvesting activities. The employment opportunities raises the quality of living of people in their respective areas and

3. enable them to acquire their basic needs such as food, shelter and clothes. Forexample in Tanzania more than 200,000 people are employed on the estates each year.

Stimulates the Industrial development in the country. The estate farming also has a contributing role on the development of the Industrial sector in the country which had bee n a root factor towards the progress in develo pment in different countries of the world. The estate farming produces plently raw materi als which are used in the Industrial production of useful goods like insecticides, food varieties, medicines among others which are essential for human life. Forexample TPC industry in Mathi, and Textile industries which use raw M aterials like cotton.

Source of food in the society. The estate farming also plays a great role in the produ ction of various food varieties which are very essential for human life within the population. Various food stuffs such as maize, beans, grou ndnuts, millet and other cereals have been produced in large estates in the country thus suits the health and growth of the people. Foo d is an essential resource for the survival of a person, therefore lack of enough food (famine and hunger) contributes to death which leads to labour scarcity. For example in Tanzania lar ge estates are found in Shinyanga, Mara, Iringa, Tanga, Morogoro, Kibaha, Kagera among other which suits the natural food demands.

3. Estate farming also contributes to earning of income for the national and individual development. On the other hand, the estate farming had been helping the individual farmers and the government to earn income and revenue through selling of various products such as raw materials like cocoa, cotton, tea, coffee, tobacco among others and food stuffs like maize to other countries which aids towards accumulation of capital for the national development in other sectors like trade, tourism, fishing and mining, Improvement in the provision of social services and Improvement or creation of good relationship with other countries. For example Tanzania has a good relation ~~of~~ with East African countries like Kenya due to the agriculture.

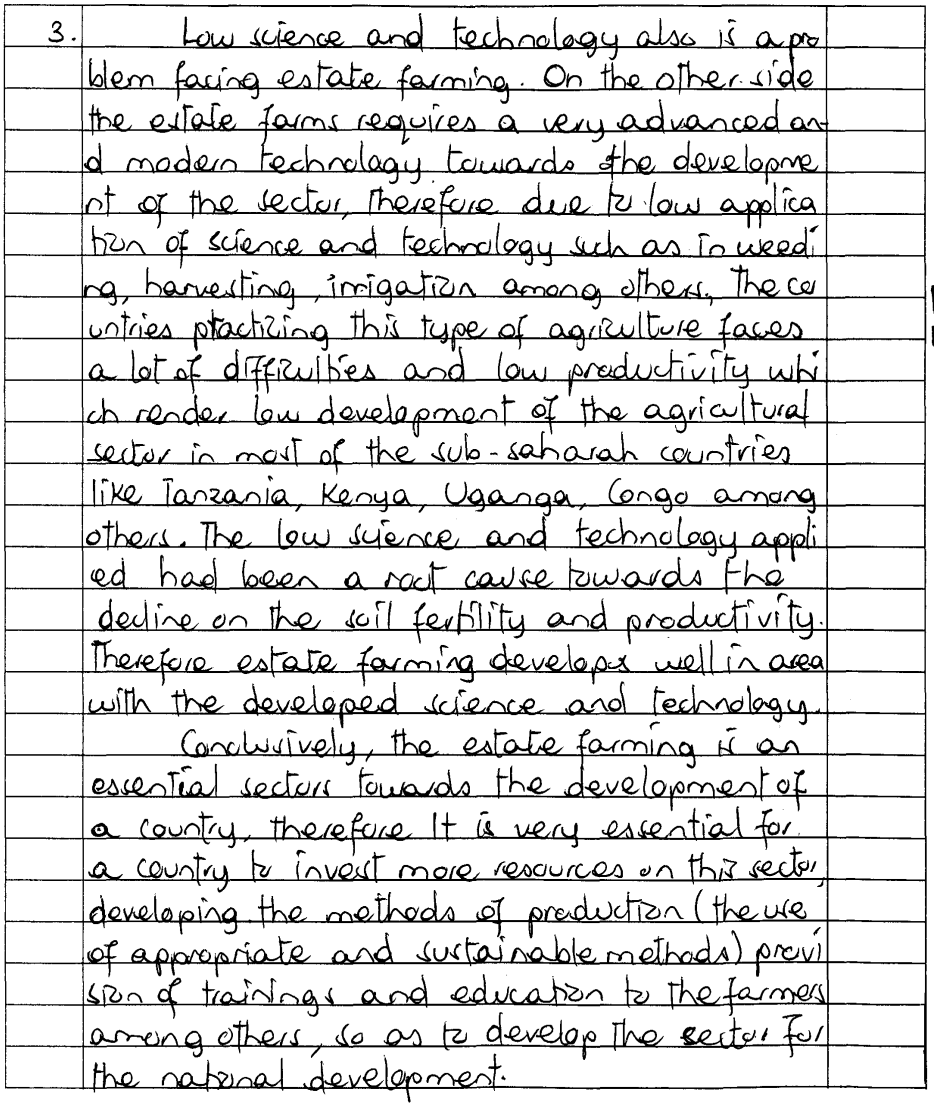
On the other hand, Estate farming faces a variety of problems as follows;

Climatic variation or changes in the climate. The estate farming had been affected by the global climate change in the 21st century which renders low precipitation and high temperature which render dryness and drought. The climatic variation on the other side had lead to low productivity which does not suit the demands of people in the population of an area and outside their bound. This has therefore lead to food scarcity and backwardness in Industrial sectors and trade which renders low development rate among the developing countries. For instance in the Tropical and sub-tropical regions like Ta

3. Zania, Kenya and Uganda

Rapid population growth. Also the high and uncontrollable growing population is a threat towards the development of estate farming because it contributes to land scarcity and environmental degration which leads to the decline of the soil productivity. The expansion on the population in the sub-saharan countries has lead to conducting of harmful and unsustainable activities which are very harmful to the environment and towards the development of the country. Taking an example from the countries like India and China, there is very high population which has a direct effects towards the development of estate farming.

Shortage of capital and more resources towards the development of estate farming. On the other hand, conducting estate farming is very expensive in terms of preparation of the farms, weeding, planting and harvesting so as to yield quality and plenty products. Therefore it is very essential for a company or private organization to have high capital and resources so as to develop this system of agriculture. The Implements like tractors, seed drill and harvesters are very expensive, packing and transporting resources is expensive also paying labourers require a lot of money, therefore It has become a hurdle towards the development of estate farming. Forexample In Somalia and Kenya the country has failed to manage well the estates.


3. Low science and technology also is a problem facing estate farming. On the other side the estate farms requires a very advanced and modern technology towards the development of the sector, therefore due to low application of science and technology such as in weeding, harvesting, irrigation among others, the countries practicing this type of agriculture faces a lot of difficulties and low productivity which render low development of the agricultural sector in most of the sub-saharah countries like Tanzania, Kenya, Uganga, Congo among others. The low science and technology applied had been a root cause towards the decline on the soil fertility and productivity. Therefore estate farming develops well in area with the developed science and technology.

Conclusively, the estate farming is an essential sectors towards the development of a country, therefore it is very essential for a country to invest more resources on this sector, developing the methods of production (the use of appropriate and sustainable methods) provision of trainings and education to the farmers among others, so as to develop the sector for the national development.

Extract 10.1: A sample of correct response for question 3

Moreover, 2,313 (7.49%) candidates who scored 7 to 11.5 marks revealed reasonable knowledge and skills on the sub topic of *Agricultural Development,* especially on estate farming. Most of them understood the question demands but failed to expand their explanations and their essays lacked examples. Some of them managed to define estate farming but explained inadequately the significance of estate farming. Some explained only problems brought by estate farming without conclusion.

Similarly, 209 (0.68%) candidates who scored 0 to 6.5 marks had several weaknesses in their responses. They showed unsatisfactory knowledge because they failed to provide relevant introduction, mixed correct and incorrect significance of estate farming and problems encountered by estate farming. For example, one candidate defined farming as; *the process of growing crops*. The candidate explained the significance of farming as; *it helps to get food, it is the source of medicine, it is the habitat of organisms, it helps in increasing soil fertility and eruption of diseases* and *natural calamities,* instead of concentrating on estate farming. Extract 10.2 illustrates an incorrect response for question 3.

Qsn 03. Organic farming, refers to the use of environmental friendly methods of farming such as manure which increase Fertility to the soil while discouraging the use of chemicals in the soil. Despite its economic significance, estate farming is faced with many problems. The following are the importance of estate farming and the problems of estate farming.

It leads to soil management, since soil gains fertility due to the use of manure which adds nutrients to the soil as a result it leads to improvement of soil growth which can support the lives of plants and animals. Hence organic farming supports and leads to soil management since there is no introduction of chemicals to the soil hence improvement of soil health in productivity and mechanization to take place hence development.

It reduces soil erosion, Organic farming, involves the application of manure which binds the soil particles together so that it can lead to soil maintanance and management. Therefore, it eradicates soil erosion since there is no introduction of chemicals which hinders the development of the soil due to introduction of harmful chemicals. Hence manure adds nutrients in the soil and acts as a binding agents hence development of the soil which will be enabling productivity and mechanization process to take place hence development.

It reduces water contamination and pollution. These can be caused by surface

Qsn 03

runoff when a farmer apply chemicals on the soil when rainfall occurs it causes surface runoff from land to the sea leading to the contamination of water bodies. Hence, the tendency of application of manure in the soil it helps to reduce water contamination since it does not employ any introduction of chemical hence water management and preservation.

It leads to plants resistance from deseases and pests. due to application of organic farming specifically manure in the soil it helps the plants to hold on firm to the soil and also it helps to avoid plants pests and diseases. Therefore, manure helps to combat pests and diseases hence development and growth of plants which leads to development of timber industry. Hence manure provides strong and health soil and plants species

Organic farming is mostly available in rural areas where they have ranching it acts as an obstacle to people who do not engage in livestock keeping since they do not get adequate manure which will enable them to apply in their farm as a result they will have to seek for alternative way or to seek to the producers of the manure so that they could be able to apply on their farms.

Organic farming acts slowly in productivity and also it produces low quantity of agricultural products hence it does not fulfil the demands of the people in the society since, it produces low agricultural production. Therefore it

Qsn 03. it is mostly covered in small scaled farming areas for food consumption. Hence organic farming fail to meet the basic demands of people on time because it produces slowly the agricultural products.

Emergence of the leading suppliers of chemicals especially in developed countries such as USA, Japan, china they have become the best supplier of the agricultural chemicals in the promotion of agricultural products which will make them produce so that to meet the demands of people in the society and solve the problem of starvation in the country. As a result the chemical agricultural products replaced organic farming created a problem to estate farming.

Conclusively; Organic farming is best method of farming since it supplies nutrients in the soil making it to be more fertile and attract mechanization process to take place faster than chemical agricultural products which hinders the development of the soil which leads to soil erosion.

Extract 10.2: A sample of an incorrect response for question 3

In extract 10.2, the candidate defined organic farming as *the use of environmentally friendly method of farming such as manure which increases fertility of the soil,* instead of defining estate farming. In the second part, the candidate explained the importance of organic farming with mixed irrelevant points such as *it leads to soil management*, *it reduces soil erosion*, *it reduces water contamination*, *it leads to plant resistance over disease*, *it is available in rural areas*, *it acts slowly in productivity*, and *it leads to emergence of the leading suppliers.* This

indicated that the candidate failed to interpret the demands of the question due to little knowledge acquired from the topic tested.

2.2.4 Question 4: Transport and Communication

The candidates were given the statement that, "*Nowadays there is an increasing rate of road accidents which cost the lives of the people while leaving others hand capped"*. Then they were required with *vivid examples* to; *explain eight measures taken by the government of Tanzania to reduce this tragedy in the country*.

The question was answered by 19,803 (36.86%) candidates. The general performance was good since 19,693 (99.44%) candidates scored 7 marks and above. The detailed analysis shows that 17,006 (85.88%) candidates scored 12 to 20 marks, 2,687 (13.56%) scored 7 to 11.5 marks and 110 (0.56%) scored 0 to 6.5 marks. Figure 11 illustrates the performance of the candidates for this question.

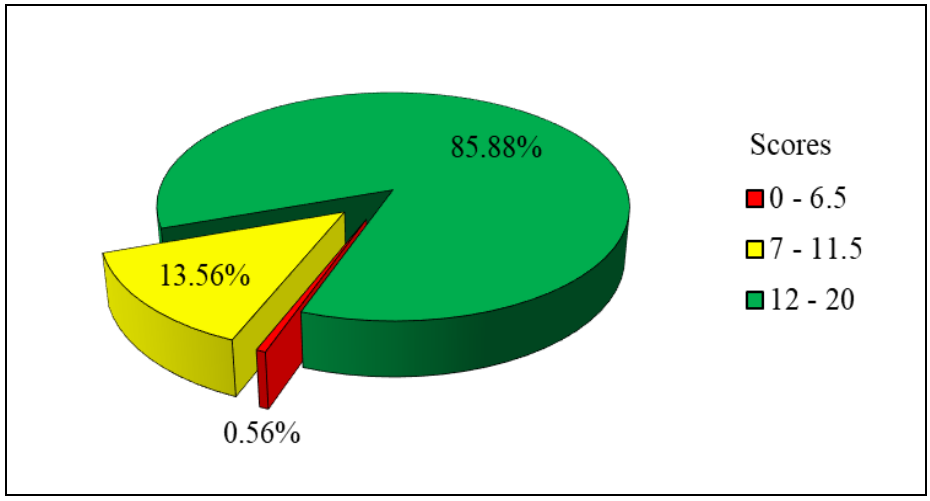


Figure 11: *Candidates' performance for question 4*

Further analysis indicated that 17,006 (85.88%) candidates who scored 12 to 20 marks had sufficient knowledge and skills on the subtopic of *Transport and Communication,* especially on the concept of road accidents. Those candidates succeeded to define road accidents and explain the eight measures taken by the government of Tanzania to

reduce road accidents in the country. They also ended up with relevant conclusion. For example, one candidate defined road accidents as; *unpleasant events that happens along the road unexpectedly which causes damage and death of people.*

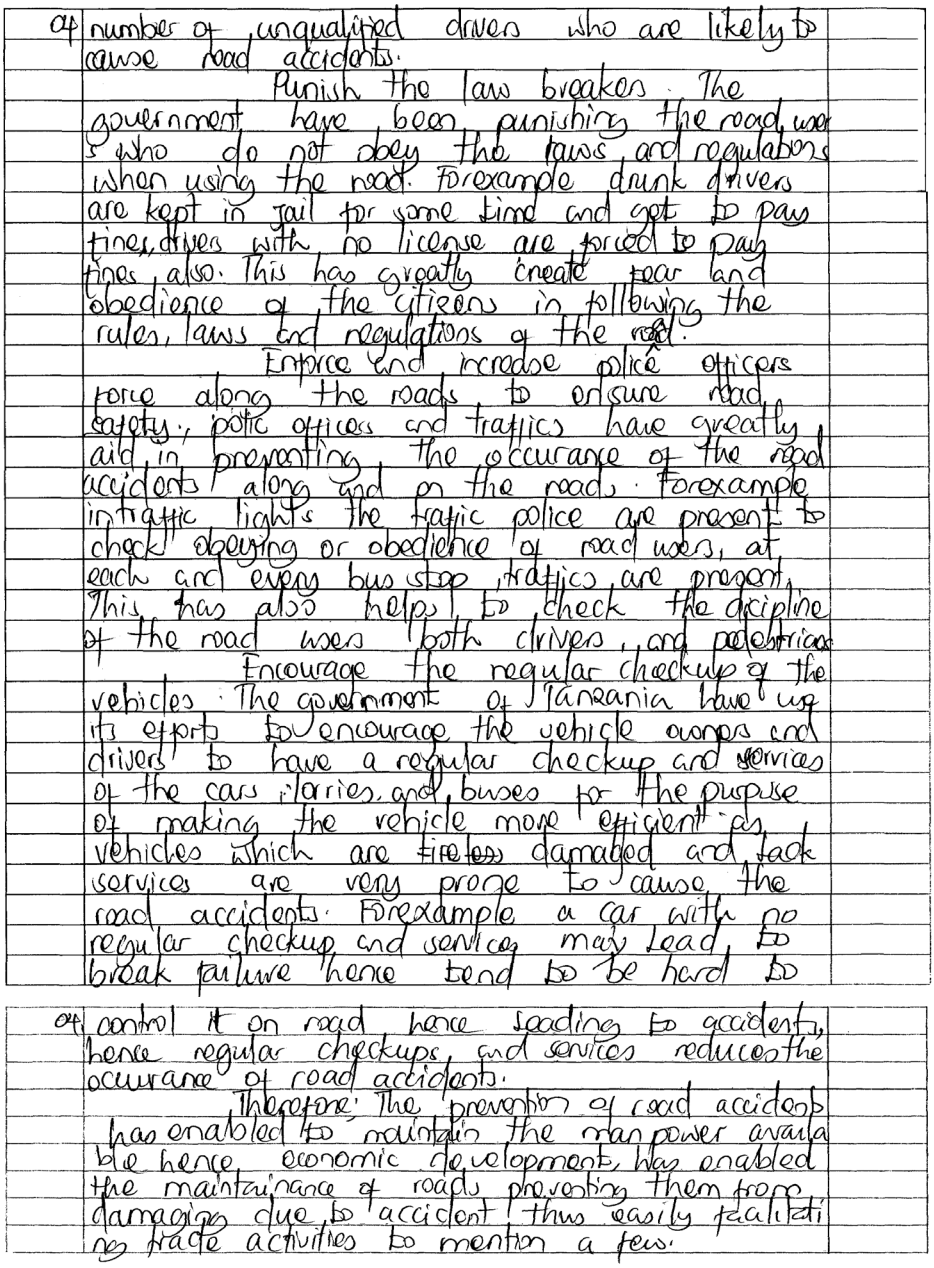
In addition to that, the candidate explained the measures taken by the government of Tanzania to reduce road accidents as; *the government has introduced a law where all public service vehicles must be governed* and *bumps have been created on the sections of the road in areas where there are many pedestrians*. *The government has also established road safety education through mass media*, *the government has intensified traffic police checks with the aim identifying the roads law backers and the government has tried to repair broken-down roads in order to reduce accidents*. *All roads users are advised to use reflectors where there is a vehicle breakdown*, *pedestrian using roads during nights are encouraged to wear white clothes which reflects light* and *the government has introduced strict regulations on the issuing of driving licenses to motorists.*

Also, the candidate finalized the question with a relevant conclusion. The variations of candidates' marks were attributed by the strengths and accuracy of their answers. Extract 11.1 illustrates such a correct response for question 4.

04. Provide education to the majority on road use. The government of Tanzania have been creating awareness and rise conciousness to the majority citizens upon the use of the roads and its associated road signs by providing the interpretation of each road sign and symbol. This has enable the road users to use wisely the road signs. Also, the government have provided awareness and educate the citizens on things when done are prone to road accidents like crossing the road in an area with no zebra crossing, drinking alcohol while driving or driving while drank. This has enable the decrease and prevention of the road accidents.

Enactment of the laws and regulations about the road use. The government have enacted regulations, laws and rules upon using the road to both pedestrians and vehicle drivers. For example pedestrians are instructed to cross the road on zebra crossing. Drivers are instructed and regulated to increase speed whenever they see bumps and a sharp corner. To a large extent has enabled to prevent the occurance of road accidents.

Provide license and certify the qualified drivers through training centers. In Tanzania there are centers run by the government like VETA which trains people to become drivers and use the road wisely and then later they get qualified and be provided with license ready to use roads as qualified drivers. This has help to reduce the



Extract 11.1: A sample of the correct response for question 4

Furthermore, 2,687 (13.56%) candidates who scored 6 to 11.5 marks revealed moderate knowledge and skills on the subtopic of *Transport and Communication,* specifically on road accidents. Most candidates in this category provided inadequate explanations on the measures taken by the government of Tanzania to reduce road accidents. Some

mentioned correct points, with incorrectly explanations and some explained few measures contrary to the demands of the question.

Similarly, 110 (0.56%) candidates who scored 0 to 6.5 marks failed to provide relevant introduction though managed to explain few measures taken by the government of Tanzania to reduce road accidents. Some candidates mixed correct measures and incorrect measures employed to reduce road accidents. Examples of the incorrect measures were; *improvement of taxation, improvement of infrastructure, improvement of vehicles* and *provision of financial aids.* Others were*; provisional of capital*, *improvement of capital*, *increase in taxation* and *good government police.*

2.2.5 Question 5: Sustainable Use of Forestry

The question required candidates *to justify with eight points* the statement that *"Regardless of having high timber industry potentials in Tanzania, the sector is still lagging behind"*.

The question was attempted by 46,290 (86.10%) candidates. The general performance was good since 46,017 (99.62%) scored 7 marks and above. The detailed analysis showed that 43,431 (93.82%) candidates scored 12 to 20 marks, 2.683 (5.80%) scored 7 to 11.5 marks and 176 (0.38%) scored 0 to 6.5 marks. Further illustrations of the candidates' performance for this question is found in table 1.

Table 1: Candidates' performance for question 5

Scores	0 - 6.5	7 - 11.5	12 - 20
Percentage of Candidates	0.38	5.80	93.82

The analysis showed that 43,431 (93.82%) candidates who scored 12 to 20 marks showed sufficient knowledge and skills on the sub topic of *Sustainable Use of Forestry Resources,* particularly on timber industry. Those candidates were able to justify why the sector is lagging behind with correct explanations and examples. For example, one candidate

defined timber industry as; *the industry which involves the activity of producing timber from the forests*.

In addition, the candidate explained the reasons as to why the sector is lagging behind as; *most of the species are hard wood while there is a demand of soft wood*, *poor transport network*, *low capital invested in the timber industry* and *poor local market as most of the people in the country are poor*. Others are*; much concentration on other activities rather than timber industry*, *low level of science and technology in the country*, *the climate of Tanzania does not favor the establishment of many plantations*, *low labour supply*, *shortage of food* and *high deforestation in the region.* Finally, the candidate provided a relevant conclusion by focusing on the efforts to be taken by the Government for the country's sustainable development. Extract 12.1 is a sample of a correct response for question 5.

5. Timber industry is an industry which deals with production of timber from the source of various tree species. Timber is necessarily used for construction purposes of various infrastructure. Tanzania is endowed with various timber industry potentials but this sector of economy is still lagging behind due to some reasons such as low level of technology and others which are shortlisted and ellaborated below:-

The following are some of the factors hindering the development of timber industry in Tanzania:-

Lack of enough funds. Tanzania is compelled by shortage of capital whereby in this situation people cannot manage industry (Timber industry) and be able to finance all operational activities. This is due to the fact that Tanzania is among the least developing countries, thus the income earned national wise is genuinely low compared to the rest of the countries.

Low level of technology. The level of science and technology that is used in a country like Tanzania is low in the sense that machines to be used are poor and less advanced. This makes the rate of production of timber in their industries

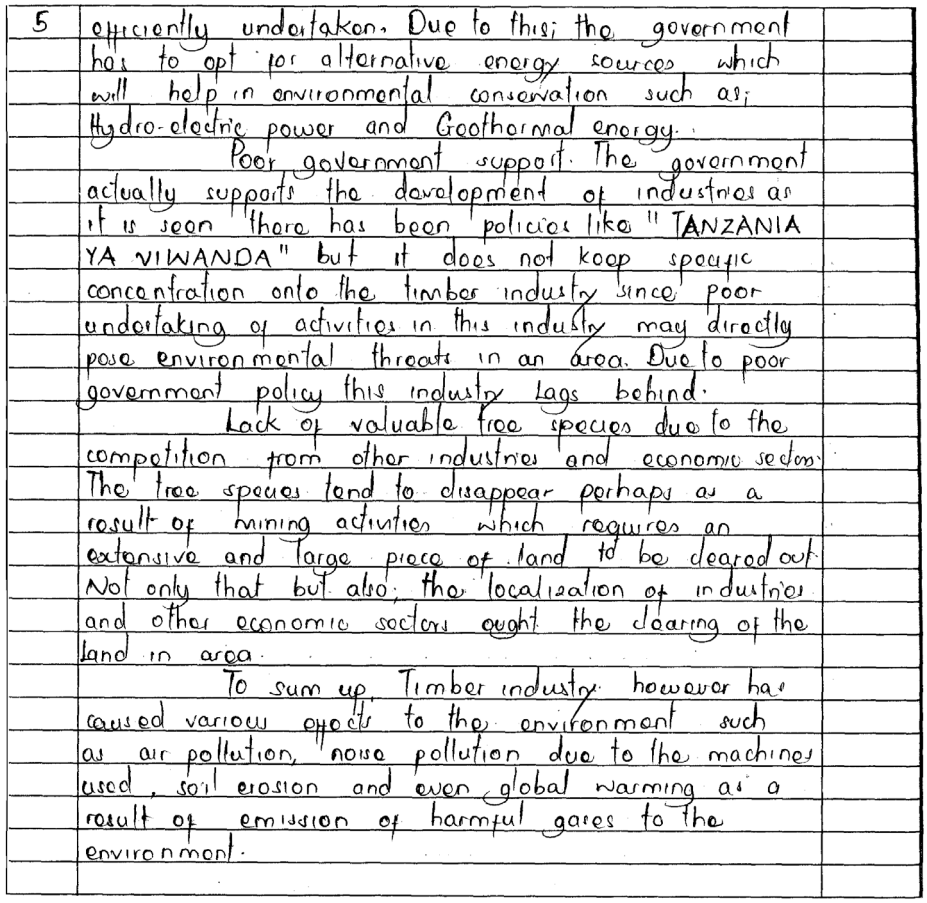
to be low. Due to this situation; the government
5 should strive to take necessary measures to import foreign technology through technocrats or tools used.

Lack of reliable markets: The timber industry despite having many potentials; it is said to lack markets to which people can purchase the produced products. This means that people do prefer products produced in other countries rather than Tanzania and so; less income is earned in the Tanzania timber industry thus lagging behind. for this comes due to poor quality of products produced.

Lack of trained personnel. In order for any industry to develop to its maximum satisfaction level there has to be strong and trained man power for the purpose of undertaking various chores efficiently and producing large amount of output. In Tanzania, there are few people in the timber industry who are well specialized enough; this makes the economic sector have less development.

Deforestation activities: Deforestation refers to the cutting down of trees without necessarily planting new ones. Deforestation is a destructive activity. Despite the fact that timber industry depend on trees; timber industry conducts afforestation and under observation of strict policies such as "KATA MTI PANDA MITI." Therefore deforestation causes soil erosion and retardation of land fertility; which makes the growth of trees slow in an area.

Unreliable power supply. There is no adequate and constant power supply indeed as it is evident that there are regular supply power cuts. This makes the industrial activities, to not be


5 efficiently undertaken. Due to this; the government has to opt for alternative energy sources which will help in environmental conservation such as; Hydro-electric power and Geothermal energy.

Poor government support. The government actually supports the development of industries as it is seen there has been policies like "TANZANIA YA VIWANDA" but it does not keep specific concentration onto the timber industry since poor undertaking of activities in this industry may directly pose environmental threats in an area. Due to poor government policy this industry lags behind.

Lack of valuable tree species due to the competition from other industries and economic sectors. The tree species tend to disappear perhaps as a result of mining activities which requires an extensive and large piece of land to be degraded out. Not only that but also; the localization of industries and other economic sectors ought the clearing of the land in area.

To sum up, Timber industry however has caused various effects to the environment such as air pollution, noise pollution due to the machines used, soil erosion and even global warming as a result of emission of harmful gases to the environment.

Extract:12.1: A sample of a correct response for question 5

In additional to that, 2,683 (5.80%) candidates who scored 7 to 11.5 marks revealed moderate knowledge and skills on the sub topic of *Timber Industry*. Some candidates gave correct introduction of timber industry, but explained inadequately the reasons for timber industry to lag behind with relevant conclusion. Some provided few factors which lead the timber industry sector to lag behind, contrarily to what was required by the question.

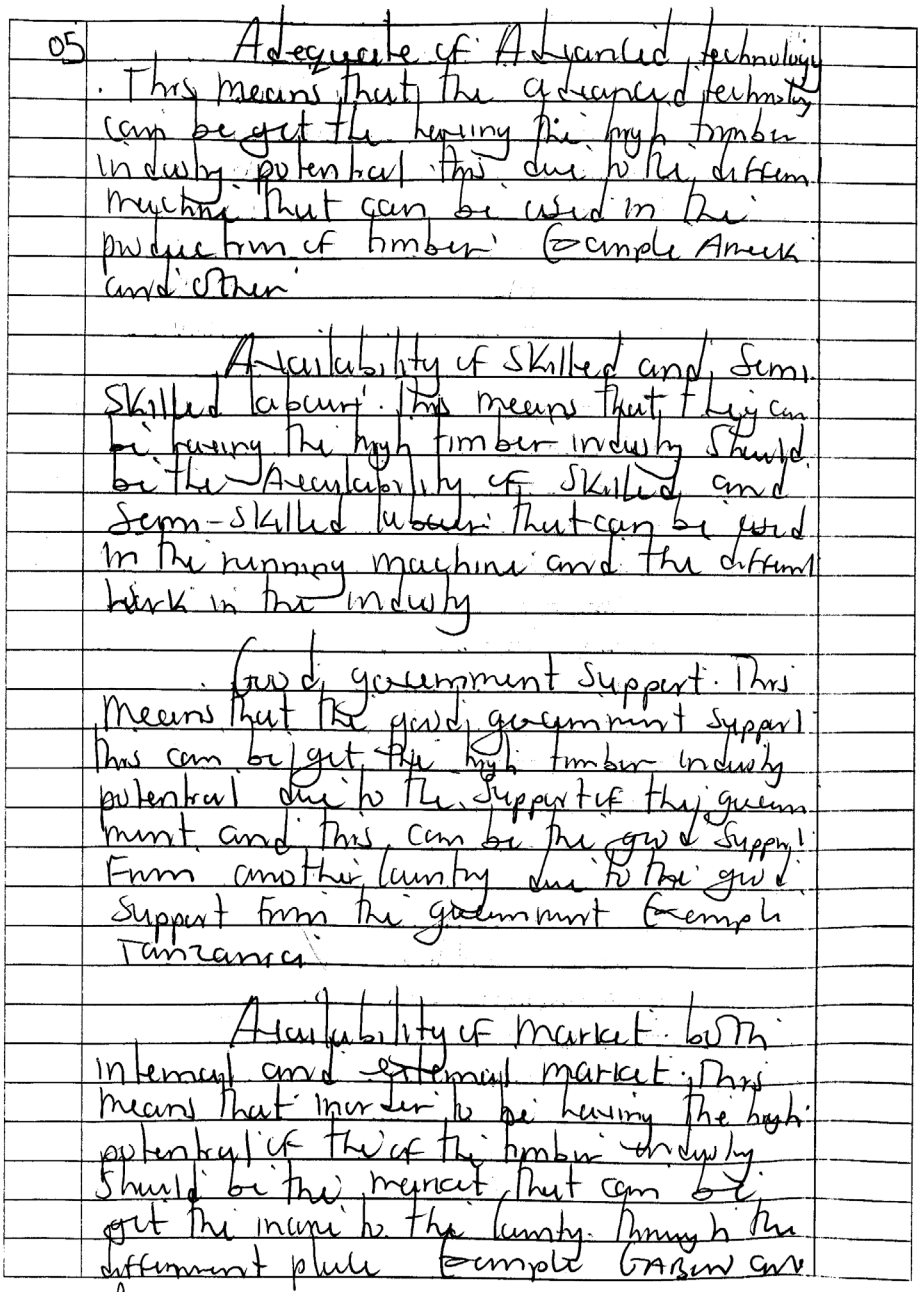
The 176 (0.38%) candidates who scored 0 to 6.5 marks revealed unsatisfactory knowledge of the tested subtopic. Those candidates lacked focus on the subject matter and as a result, they ended up scoring lower marks. Some candidates managed to give correct introduction of timber industry but failed to explain the reasons for lagging behind of

the sector. Some provided few challenges facing the sector, while others mixed the correct and incorrect challenges facing the sector without conclusion. Examples of incorrect answers included; *poor government support, lack of land, lack of fund*, *weak industrial base* and *price fluctuation*. Some candidates examined environmental impacts of developing timber industries which are; *deforestation, climate change, loss of biodiversity, destruction* of *natural resources and environmental pollution,* instead of the reasons for lagging behind of the sector. Extract 12.2 is a sample of incorrect response for question 5.

5 Timber industry - Refer to the industry that can be in the production of timber. This means that the timber industry can be based in the production of the timber in the industry through the different thing in the industry and the timber can be produced in the forest that can be get the large number of the many thing in this production. The following are the point which Regardless of having the timber industry potential in Tanzania the sector is still lagging behind.

Availability of capital. This means that when the having the high timber industry potential should have the availability of capital that can be in the many thing and they can be cause the timber industry to develop. Example money of buying machine and other.

Good transport and communication. This means that which can be having the high timber industry should be the good transport and communication that can be used to transport the timber from industry to the market and this can be good and the transportation should be take place from one place to another place and this should be the many key example road and railway.


05 Adequate of Advanced technology. This means that the advanced technology can be get the having the high timber industry potential this due to the different machine that can be used in the production of timber Example Axes and other

Availability of Skilled and Semi Skilled labour. This means that they can be having the high timber industry should be the Availability of Skilled and Semi-Skilled labour that can be used in the running machine and the different work in the industry

Good government Support. This means that the good government Support this can be get the high timber industry potential due to the Support of the government and this can be the good Support From another country due to the good Support from the government Example Tanzania

Availability of market both internal and external market. This means that in order to be having the high potential of the of the timber industry should be the market that can be get the income to the country through the different place Example GABON and

Extract 12.2: A sample of an incorrect response for question 5

In extract 12.2, the candidate explained the wrong factors which facilitate industrial development as; *availability of capital*, *good transport and communication*, *availability of skilled and unskilled*

labour, *good government support* and *availability of market*. This candidate failed to understand the demands of the question.

2.2.6 Question 6: Sustainable Use of Fuel and Power

In this question, the candidates were given the statement that, "*In Africa, Nigeria is among the countries whose economic development relies much on oil production"*. Then, they were required to *examine eight factors favoring oil production in that country*.

This question was attempted by 33,538 (62.40%) candidates. The general performance was good since 33,238 (99.11%) candidates scored 7 marks and above. The detailed analysis showed that 29,693 (88.54%) candidates scored 12 to 20 marks, 3,545 (10.57%) scored 7 to 11.5 marks and 300 (0.89%) scored 0 to 6.5 marks. Further illustrations of candidates' performance for this question is given in figure 12.

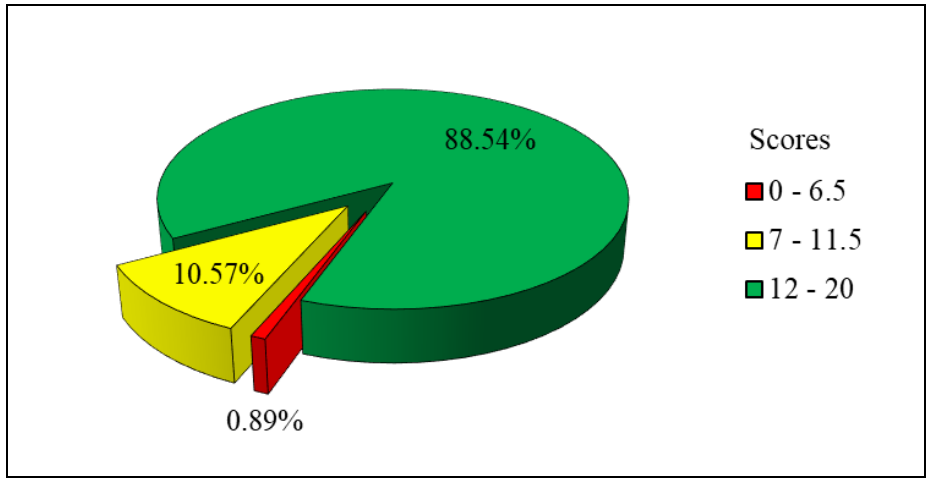


Figure 12: *Candidates' performance for question 6*

Further analysis showed that 29,693 (88.54%) candidates who scored 12 to 20 marks had sufficient understanding of the sub topic of *Sustainable Use of Fuel and Power,* especially on oil production in Nigeria. Their essays were well constructed with cohesive paragraphs. Those candidates structured well their ideas and presented them consistently in relation to the question demands. For example, one candidate defined oil as *a non-renewable resource which is formed in*

underground surface interior from decaying of animals and plants for a long period of time.

In addition to that, the candidate examined eight factors favoring oil production in Nigeria as; *the presence of well sheltered oil field which is large and cheap in production*, *strong government by providing good policies, availability of labour power both skilled and unskilled*, *good location of oil fields* and *development of well-structured transport and communication*. Others are *diversification of the economy*, *high demand of oil in the world markets*, *abundant oil reserves* and *exploration of Technology.* The candidate provided a relevant conclusion by citing the problems limiting oil production in Nigeria as; *price fluctuation in the world market, shortage of capital, civil war and corruption*. The variations of the candidate's scores were influenced by the strengths and correctness of their responses. Extract 13.1 is a sample of correct response for question 6.

6. Oil production refer to the ~~drilling~~ extracting and processing of crude oil from the ground of the earth's, oil production facilitate the growth of Gross national product GNP in the country hence facilitate development forexample Nigeria is now developed due to the oil production and selling outside the country.

The following are the factors favouring oil production in Nigeria as follows:

Advancement of technology, Nigeria has managed to improve its technology either by innovating or transfers from another countries to its countries hence this technology has facilitated the growth of oil production.

Availability of enough capital to invest, oil production need high and enough capital in its production so Nigeria has managed to put enough capital in that sector of oil production which it is used to buy different advanced tools in production hence oil production increase.

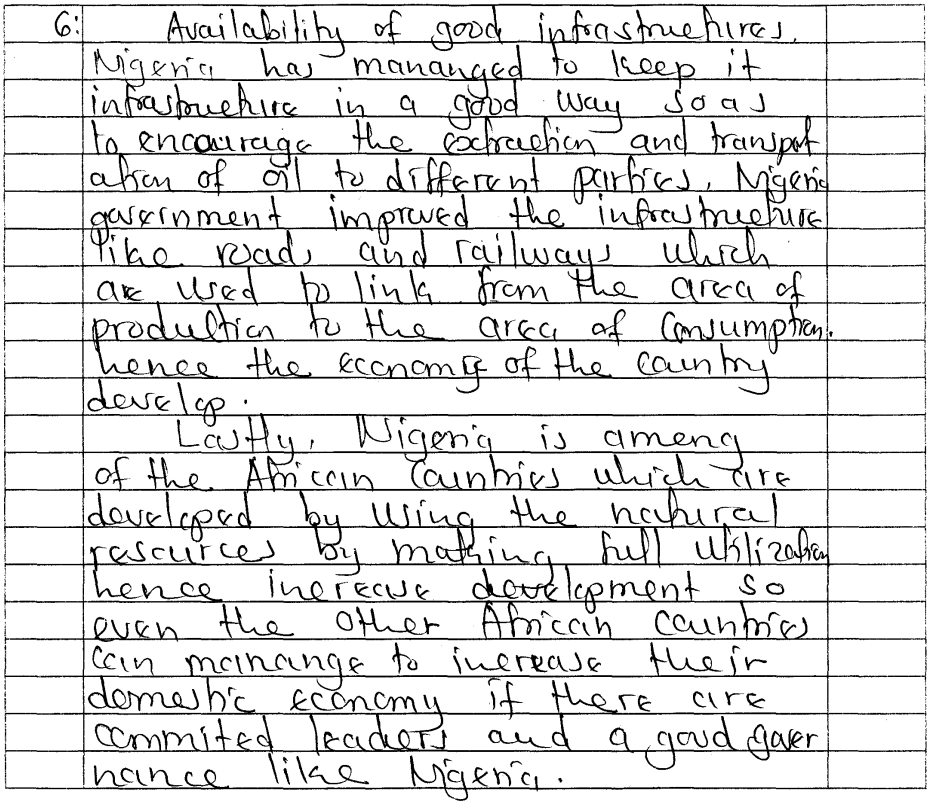
Government policy, Nigeria governme nt policy is much emphasizing in oil production so its effort is in oil production thus why the sector ~~has~~ bring economic development within the country due to the policy made by the Nigeria government on the investment of oil production.

6. Availability of Market. Nigeria has mananged to obtain market to different part of the world especially in African Continent Nigeria has large market of selling the oil produced because oil is ~~very~~ more demand to different countries hence the oil production bring economic development in Nigeria.

Availability of professional people dealing with oil production these people are called oil engineers. Nigeria has many oil engineers within the country itself does not depend from other countries So this people are commited in extraction of oil from the ground hence production of oil in Nigeria bring economic development.

Enough power supply. Nigeria also mananged to keep the country to have enough power supply by impoving other alternative sources of energy like hydro-electric power (HEP) and Solar energy hence these isure good and enough supply of power to the industries dealing with oil production hence the industries develop.

Availability of enough oil in the ground. Nigeria it seems to have enough crude oil in the ground which can be extracted for a long period of timber without exhaution also this is the factor that favour Nigeria in keeping producing oil.


6: Availability of good infrastructures. Nigeria has mananged to keep it infrastructure in a good way so as to encourage the extraction and transport ation of oil to different parties. Nigeria government improved the infrastructure like roads and railways which are used to link from the area of production to the area of consumption. hence the economy of the country develop.

Lastly, Nigeria is among of the African countries which are developed by using the natural resources by making full utilization hence increase development so even the other African countries can manange to increase their domestic economy if there are commited leaders and a good gover nance like Nigeria.

Extract 13.1: A sample of the correct response for question 6

Furthermore, 3,545 (10.54%) candidates who scored 7 to 11.5 marks showed moderate knowledge and skills on the sub-topic of *Sustainable Use of Fuel and Power*, especially on oil production. Some of them provided correct factors but failed to show clearly how those factors favour oil production in Nigeria.

In the same line, 300 (0.89%) candidates who scored 0 to 6.5 marks lacked knowledge and skills on the subtopic tested. The candidates failed to understand the demands of the question. Some were able to give clear introduction and managed to examine few factors which favour oil production in Nigeria with insufficient explanations. Some mixed correct and incorrect factors. Extract 13.2 illustrates incorrect responses for question 6.

6. Oil production: This is activities which involve the whole process of harvesting oil from their primary source like of oil palm as the raw material as well as crop. Oil in Africa is more produced in Nigeria. The following are the factors which favouring oil production in Nigeria as Explained below:

Availability of Extrem land / farms: Oil is produced is proportial to raw material produced, hence increase production of palm oils lead to increase in the quantity of oil produced. The presence of large farm such that like scale plantation increase the production of oil crops (palm oil) which later increase the quantity of oil production.

Availability of fertile soil: Fertile soil is the one of the source since it support the growth of palm of which will later increase the production of palm oil, As the palm oil crop increase hence the rate of production of oil will be highe than the one produce in infertile soil. But all in all it is influenced by presence of fertilizer.

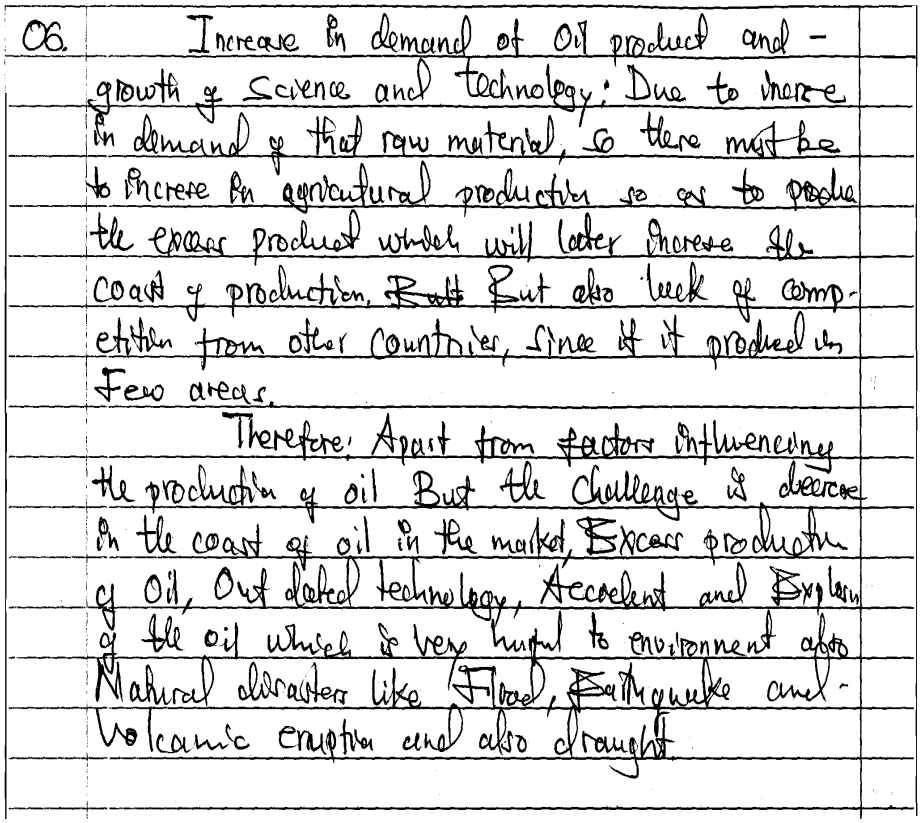
06. Heavy rainfal; Since it is equatorial climate it is favoured with the heavy rainfal which will favour/support the rapid growth of palm oil and hence increase the rate of palm oil production. For example when the rainfal is at small or bellow its average, Normally the grow of a particular crop will be poorly and hence increase of in variability or decline in production.

Warm condition; Presence of good climatic condition which is average warm will increase the rate of growth of that crop. Since palm oil is more favored in the warm condition since the cold condition lead to dwarfism and poor growth of the palm oil hence, production decreases.

Good government support; Nigeria have a strong support from its gaverment. Among of this support is provision of education to unskilled labour minimizing the goverment taxes, improving the quality of product through modern equipment and increase the coast of product and production.

Good transportation and Communication; This is experienced by looking nature of the transport used which is the land transport, Since infrastructures are improved and transport made, It make easy transportation of raw material, Such that palm oil transported easily and its manufactured good like oil will be the same applied.

Availability of both processing and manufacturing industries; Presence of industries make easy conduction of activities by increasing the - government taxes, overproduction of manufactured goods and hence increase in production of oil.


06. Increase in demand of oil product and growth of science and technology: Due to increase in demand of that raw material, so there must be to increase in agricultural production so as to produce the excess product which will later increase the coast of production. But also lack of competition from other countries, since it is produced in Few areas.

Therefore: Apart from factors influencing the production of oil But the challenge is decrease in the coast of oil in the market, Excess production of oil, Out dated technology, Accident and Explosion of the oil which is very hurtful to environment also Natural disasters like Flood, Earthquake and Volcanic eruption and also drought.

Extract 13.2: A sample of an incorrect response for question 6

In extract 13.2, the candidate explained the factors which favour the production of various crops which are *availability of fertile soil, heavy rainfall, warm condition, good government support, availability of both processing and manufacturing industries* and *good transport and communication.* The correct factors which favor oil extraction in Nigeria which are *the presence of well sheltered oil*, *good policies, availability of labour* and *good location of oil fields*. Others are; *development of well-structured transport and communication*, *abundant oil reserves and high demand of oil in the world markets*.

2.2.7 Question 7: Manufacturing Industries

This question required candidates to *explain five roles of ship building industry to the social-economic development of Japan and identify three major challenges facing the industry*.

This question was attempted by 33,236 (61.80%) candidates. The general performance was good since 32,241 (97.01%) scored 7 marks and above. The detailed analysis showed that 21,043 (63.31%) candidates scored 12 to 20 marks, 11,198 (33.70%) scored 7 to 11.5 marks and 995 (2.99%) scored 0 to 6.5 marks. The performance of the candidates for this question is further illustrated in Figure 13.

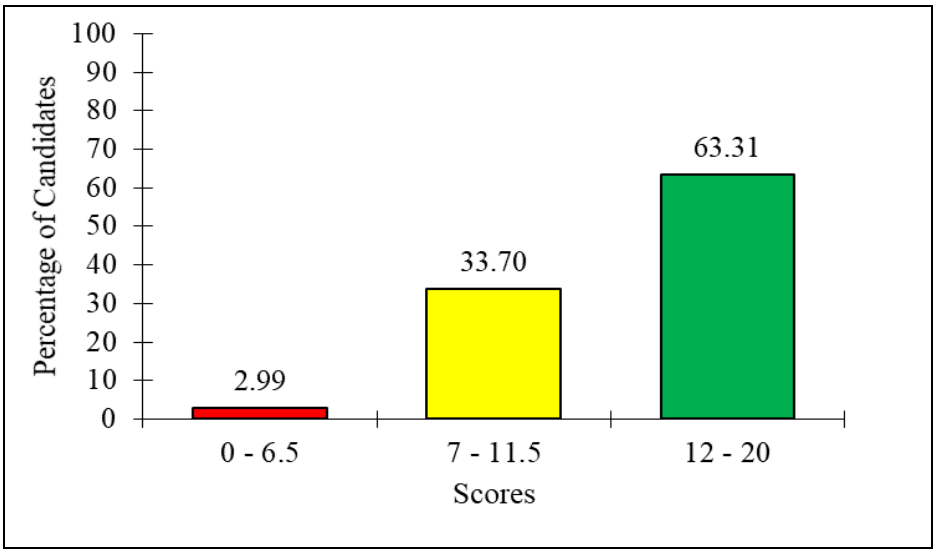
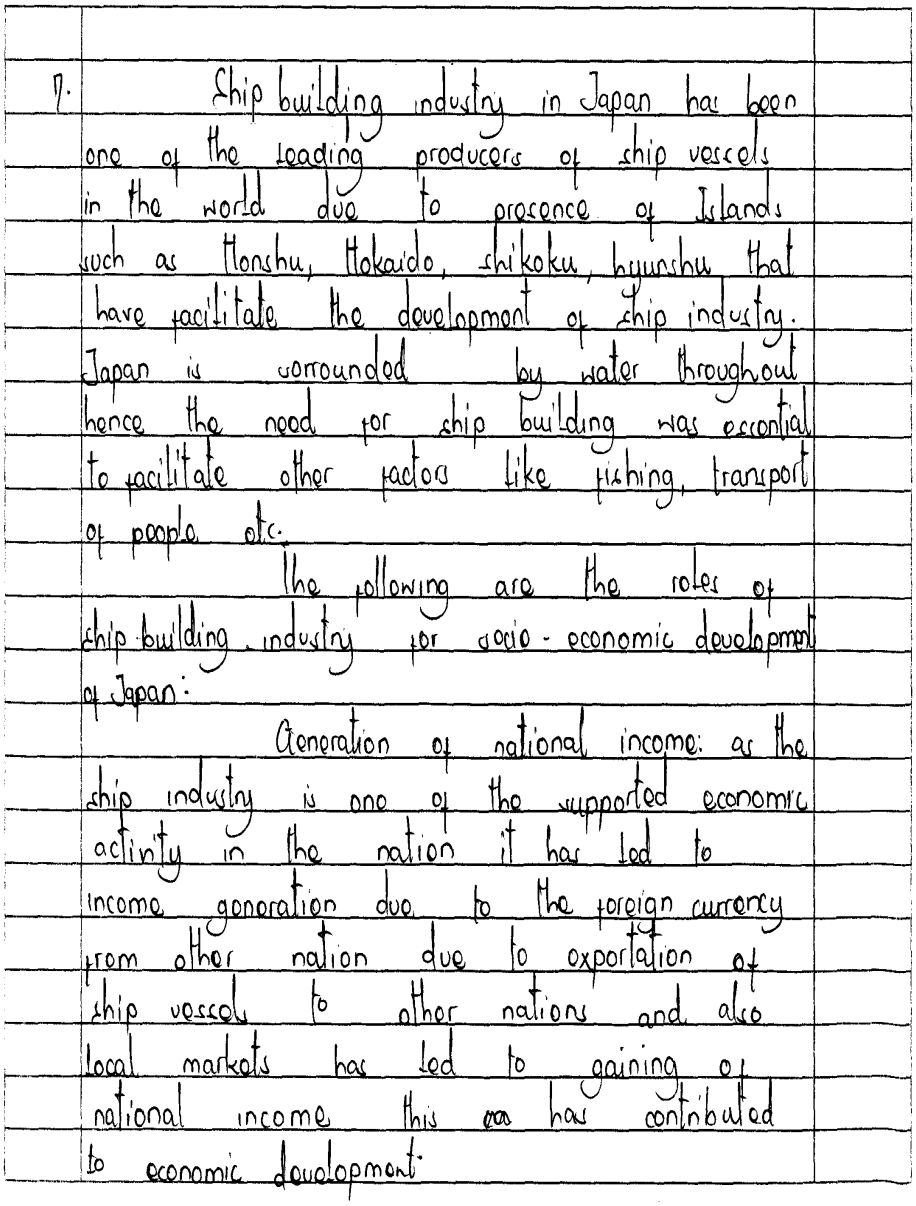


Figure 13: *Candidates' performance for question 7*

Further analysis showed that 21,043 (63.31%) candidates who scored 12 to 20 marks demonstrated adequate knowledge and skills on the sub topic of Transport and Communication, especially on the ship building industry in Japan. The candidates explained correctly the roles of ship building in the social economic development of Japan and made a relevant conclusion. For example, one candidate correctly provided the roles of ship building industry to the social economic development of Japan as; *creation of employment*, *development of other sector like tourism*, *it has facilitated the improvement of the living standard of the people*, *it has contributed to earning of foreign currency*, and *it has enhanced the improvement of social services like health services and education*.

Also, the candidate provided the major challenges facing the industry as; *the industry is threatened by frequency earthquake*, *stiff challenges from other countries like china*, and *the opposition from the environmentalist.* The candidate ended up with a relevant conclusion. The variations of the candidates' marks was a result of their strength and correctness of their responses. Extract 14.1 is a sample of correct response for question 7.



7. Ship building industry in Japan has been one of the leading producers of ship vessels in the world due to presence of Islands such as Honshu, Hokaido, shikoku, kyunshu that have facilitate the development of ship industry. Japan is corrounded by water throughout hence the need for ship building was essential to facilitate other factors like fishing, transport of people etc.

The following are the roles of ship building industry for socio-economic development of Japan:

Generation of national income: as the ship industry is one of the supported economic activity in the nation it has led to income generation due to the foreign currency from other nation due to exportation of ship vessels to other nations and also local markets has led to gaining of national income this ~~as~~ has contributed to economic development.

7. Employment opportunities: ship industry in Japan has employed many people with different skills so as to acquire more advancement in the sector, this has led to people have better living conditions due to income earning and also to increase the skill abilities

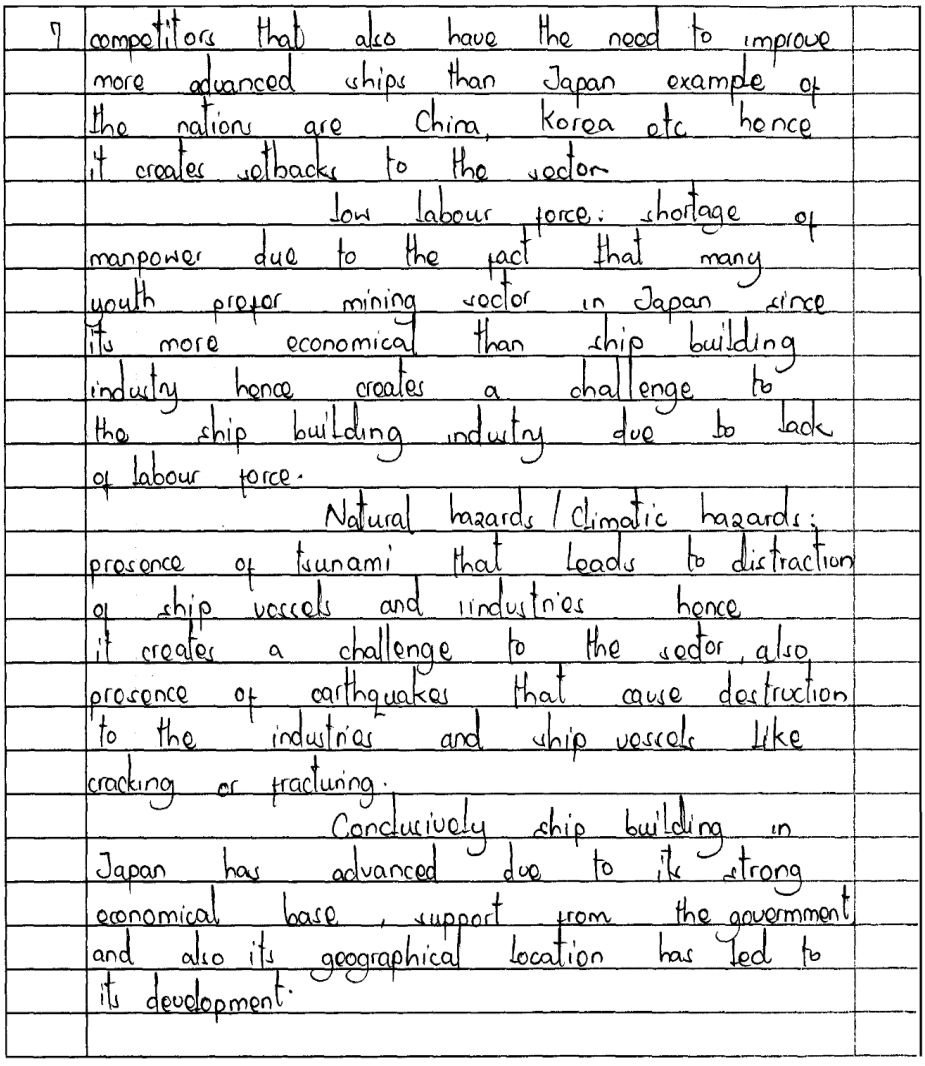
Improvement and advancement of fishing sector: due to production of ships vessels it has supported the fishing sector by provision of quality and advanced vessels to be used in fishing and also to other nation by selling to them like Russia.

Improvement and advancement of transport and communication sector: such that Japan is an Island that is surrounded by water most of it hence the need for ships for transport was highly needed this led to the improvement of transport system especially water transport.

Improved good relation with other countries: as Japan is one of the leading nation in ship industry and has been exporting ship vessels to other nations it has facilitated good relation such that it has created good political, social and economical friendship.

The following are the challenges facing the ship building in Japan:

Competition from other nation: since Japan is a developed countries it also


7 competitors that also have the need to improve more advanced ships than Japan example of the nations are China, Korea etc hence it creates setbacks to the sector

low labour force: shortage of manpower due to the fact that many youth prefer mining sector in Japan since its more economical than ship building industry hence creates a challenge to the ship building industry due to lack of labour force.

Natural hazards / Climatic hazards: presence of tsunami that leads to distraction of ship vessels and industries hence it creates a challenge to the sector, also presence of earthquakes that cause destruction to the industries and ship vessels like cracking or fracturing.

Conclusively ship building in Japan has advanced due to its strong economical base, support from the government and also its geographical location has led to its development.

Extract 14.1: A sample of a correct response for question 7

Additionally, 11,198 (33.70%) candidates who scored 7 to 11.5 marks revealed moderate mastery of the sub topic of *Manufacturing Industries,* especially in ship building in Japan. They presented correct and incorrect roles of ship building in Japan, some explained only the roles of ship building without challenges, while others provided few roles with inadequate explanations.

Similarly, 995 (2.99%) candidates who scored 0 to 6.5 marks presented few roles of ship building industry in Japan without examples. Some

provided insufficient explanations on the roles of ship building industry in Japan. Others mixed correct and incorrect roles of ship building industry in Japan without the challenges facing the sector. For example, one candidate defined ship building industry as; *the industry that uses steel as raw materials to build ships which are water moving vessels.* Examples of incorrect roles of ship building industry in Japan were; *improved technology, it facilitates the mobility of people, technological changes, skilled labour, decrease of the resources available*. Another candidate explained the factors which favor the development of ship building industry in Japan as; *presence of raw materials, presence of experties, availability of capital, presence of good government support.* Also suggested the challenges were; *political instability, poor markets, and competition from other countries.* The variations of their marks were a result of strengths and weaknesses of their responses.

3.0 PERFORMANCE OF CANDIDATES IN EACH TOPIC

The analysis of candidates' performance for each topic shows that the candidates had good performance in 12 out of 13 topics. In Geography paper 1, the candidates had good performance in the topics of *Position, Behavior and Structure of the Earth (90.15%), Space Dynamics (87.73%), Study of Soils (85.76%), Application of Statistics in Geography (73.76%) Water Masses (72.73%)* and *Topographical Map Interpretation (64.35%)*. Moreover, they had average performance in the topic of *Photography Interpretation (38.95%)*. The candidates had good performance in all the topics tested in Geography paper two. The topics were; *Sustainable Use of Forestry (99.62%), Transport and Communication (99.44%), Agricultural Development (99.32%)*, *Sustainable Use of Fuel and Power (99.11%), Manufacturing Industries (97.01%)* and *Population and Development (67.48%)*.

The candidates' ability to follow the required examination instructions, the good understanding of the demands of the questions and a good mastery of the subject matter led them to perform well in those topics. Furthermore, good proficiency in English language demonstrated by the candidates enabled them to provide logical arguments, clear explanations and meaningful sentences. The reasons that made the candidates have average performance were; providing few points than

those demanded by questions, mentioning correct points without satisfactory explanations and mixing correct and incorrect responses. Others were the inability of the candidates to present the statistical data by using percentage cumulative bar graph and explaining the visual elements of photographs which are tone, pattern, texture and shape in the *Photograph Interpretation* topic.

A comparison of the candidates' performance between the Advanced Certificate of Secondary Education Examination (ACSEE) 2022 and 2023 shows that in 2022, the performance was good in 8 topics, average in 2 topics and weak in 3 topics. Therefore, the performance of the candidates in 113 Geography ACSEE in 2023 has increased. However, the candidates' performance in both years remained constant (good) in *Population and Development, Study of Soils, Manufacturing Industries, Agricultural Development, Transport and Communication* and *Water Masses* topics. On the other hand, the *Space Dynamics and Topographical map Interpretation* topics which had weak performance in 2022, were well performed in 2023. The comparison of the candidates' performance in each topic for 2022 and 2023 is summarized in the appendix. The green colour indicates topics with good performance, yellow colour indicates topics with an average performance and red colour indicates topics with weak performance.

4.0 CONCLUSION

The performance of the candidates in Geography subject for Advanced Certificate of Secondary Education Examination (ACSEE) 2023 was good in almost all the topics as it has been observed in the question wise analysis. The analysis shows that the candidates' good performance was due to their ability to understand the demands of the question, knowledge and skills on the subject matter, competence in English language, and the skills in calculating, drawing and measuring. However average performance has been observed in one topic of Photograph Interpretation. The observed reasons for the average performance were inadequate knowledge and skills of the subject matter and failure to understand the demands of the question.

5.0 RECOMMENDATIONS

Based on the observations made from the Candidates' Item Response Analysis (CIRA) report, candidates' performance was good in 12 out of 13 topics examined. The average performance was observed in 1 topic. In order to improve the performance for the forthcoming candidates in this examination, the following are recommended:

(a) Teaching and learning process in classroom should be endorsed with practical activities. It is always expected that students learn better if they are involved in different practicals with support of concrete materials that give them experience and direct knowledge. For example, in the topics of Topographical Map Interpretations, Photograph Interpretation and Application of Statistics in Geography practicals matter the most.

(b) Graphical drawing skills need to be improved. The graphs need to be specific as the syllabus instructs. Therefore, teaching how to draw graphs by showing the relationship between variables (dependent and independent) should be focused so as to enable the students make sense and ensure easy data interpretation.

(c) Guest speakers should be invited to schools, especially experts in different topics so as to improve students' performance on non-practical topics like Population and Development.

Appendix:

Comparison of Candidates' Performance by Topic in 2022 and 2023 Years

S/N	Topic	2022			2023		
		Number of questions per	Percentage of candidates who scored an average of 35 Percent or more	Remarks	Number of questions per topic	Percentage of candidates who scored an average of 35 Percent or more	Remarks
1.	Sustainable Use of Forestry				1	99.62	Good
2.	Transport and communication	1	95.31	Good	1	99.44	Good
3.	Agriculture Development	1	99.30	Good	1	99.32	Good
4.	Sustainable Use of Fuel and Power				1	99.11	Good
5.	Manufacturing Industries	1	90.80	Good	1	97.01	Good
6.	Postion, Behaviours and Structure of the Earth				1	90.15	Good
7.	Space Dynamics	1	24.50	Weak	1	87.73	Good
8.	Study of Soils	1	96.01	Good	1	85.76	Good
9.	Application of Statistics in Geography				1	73.76	Good
10.	Water Masses	1	74.30	Good	1	72.73	Good
11.	Population and Development	2	96.82	Good	2	67.48	Good
12.	Topographic Map Interpretation	1	18.70	Weak	1	64.35	Good
13.	Photograph Interpretation				1	38.95	Average
14.	Sustainable Fishing	1	97.10	Good			
15.	Environmental Friendly Tourism	1	85.00	Good			
16.	The Dynamic Earth and Consequences	1	57.90	Average			
17.	Simple Survey and Map making	1	35.60	Average			
18.	Field Research Strategies	1	28.00	Weak			